THE

CINCINNATI JOURNAL OF MEDICINE.

MAY, 1866.

ANATOMY, SURGERY, AND OPHTHALMOLOGY.

By GEORGE C. BLACKMAN, M. D., Professor of Surgery in the Medical College of Ohio; Surgeon to St. John's Hospital; Fellow of the Royal Medical and Chirurgical Society of London.

ART. I.—*Gunshot Injuries of the Head of the Tibia.* By D. S. YOUNG, M. D., *formerly Surgeon 21st Regiment O. V. V. I.*

THE head of the tibia is a structure differing very much in form from any of the other extremities of the bones. It has a broad, horizontal, articulating surface, without that diminution of thickness in its center as in the lower extremity of the femur, nor are those hard ridges and processes bracing its sides as numerous as in most of the other bones. Its mass is composed of cancellated structure, encased by a thin, long covering, but little more dense than itself, and is perforated by numerous foramini.

It also has a space through its center, including the spine, between its articulating surfaces, which is pierced with numerous orifices, through which nutriment is conveyed to the ligaments and cartilages that are attached to it, and that cover its surface. It contains more blood than any other bone except the condyle of the femur. These peculiarities in form, structure, degrees of hardness, and amount of circulation, give a special character to many of the injuries received from gunshot, and influence the after symptoms if not interfered with by amputation. Balls that have nearly spent their velocity striking the cancellated portion and penetrating it in almost any part, do not so often fracture the head in fragments, or cause fissure beyond the orifice made by the ball.

The joint may be opened and the fracture not extend through the whole length of the head, and again, when the fracture extends toward the shaft it does not invade the joint, but may force fragments into it, if near its edge. When the ball penetrates the whole diameter of the bone, and does not displace fragments or cause fractures to enter the joint or extend into the shaft, they contuse and damage the soft bone to such an extent as to cause it to necrose and be thrown off.

When this destruction and death extends to the articulating surface, death of the cartilage and ligaments will take place, particularly if the ball should pass below the middle of the articulating surface, from either the anterior or posterior side, for then those large trunks would be destroyed that permeate the head to yield nutrition to the ligaments and cartilages above, and laterally to the articulating surfaces themselves.

In the accompanying plate, No. 3, is a specimen which presents the effect of a ball striking and penetrating the head in the lower part of the cancellated structure—the weight of the body resting upon the limb at the time. This exhibits an unusual amount of fracture in the line of the shaft, yet it does not extend as far as is often the case in the other bones when wounded in the same relative position. If this man had not been standing with the whole weight of the body upon it, it is very doubtful whether the fracture would have extended through the extremity of the bone, as I have seldom observed such a result, where a ball in this locality penetrates near the side of the bone. But it would have torn out the side in the same manner as this—the soft structure of the head giving way before the ball, but not fracturing any portion above into the joint, throwing off that portion opposite the ball and extending further below, as the outer covering at this part is harder and more liable to extending fractures. It will be observed that the extremities of the fragments do not present that sharp spicular form that is found in fractures of the shaft—and that there is no fracture that has not completely broken its way out, and defined a fragment, as is the case in the harder portion of the shaft that is so much inclined to split and be shivered when thus penetrated. When a ball strikes the lateral parts, either internally or externally, near the joint in its broadest expanse, the joint will of course be opened, but there will be no downward fracture.

The only case I ever saw of recovery from a wound penetrating the cavity of the knee joint, was one of this kind—unless I except those in which it was opened through the patella. This occurred in the case of a captain of the 74th Regiment O. V. V. I., who was wounded when

upon a foraging excursion in the vicinity of Nashville, Tenn., in the autumn of 1862, by a buckshot, as was supposed, striking the outer portion of the knee a little below the upper margin of the head of the tibia, passing directly backward, inclining a little upward. I could feel with the probe the roughened bone of the head, and what I supposed was the articulating surface of the condyle of the femur, which, together with the escape of synovial fluid, plainly indicated that the joint was opened. He could stand and walk upon the limb shortly after receiving the wound, but my impression at the time was that he would lose the limb. He was sent to the Officers' Hospital at Nashville, where it was concluded to try and save it. He was treated antiphlogistically, the leg kept extended, and cold water constantly applied. I heard from time to time, from various sources, that he was recovering. In September, 1863, when at Dug Gap, Ga., he came to the hospital of the 2d Division, 14th Army Corps, to procure from the chief surgeon of the division an examination and certificate on which to base a resignation for disability from this wound.

There was restricted motion in the joint, and it became useless and painful after a little exercise. There was a slight enlargement about the inside of the knee, which to the touch appeared to be a consolidation of the tissues surrounding the injury. That the cavity of the joint was opened in this case there could be no doubt to my mind, though the wound was so small that the fingers could not be introduced. When it first occurred there was but little bleeding, and when I saw it a few minutes after, the whole side of the limb extending nearly to the foot was covered with synovia, which was too abundant and characteristic to be mistaken for serum or oil, which often exudes from wounds after the hemorrhage has partially ceased. The latter seldom occurs except in very warm weather. The length of time for recovery, and the condition after, go to prove that it was a wound injuring the bone complicating the cavity of the joint. And although caused by a small missile, has an unusual interest, as recovery from any penetrating wound of this joint in military practice is of great rarity. I never saw or heard of a well-authenticated case of the joint being opened by a musket ball recovering. The locality of the shot was never discovered.

No. 2 is from a man aged about forty, belonging to the 4th Regiment Ohio Cavalry, wounded shortly after we occupied Huntsville, Ala., 1862. At the time it was first received, it could not be decided by the surgeons whether the cavity of the joint was implicated or not, though it was strongly suspected, and the limb was not amputated. But in a few days the joint gave unmistakable evidence that the fracture extended to the cavity, and it was decided to remove the limb. The operation

took place about one week after the wound was received. Disorganization had proceeded with great rapidity, and in making a flap for amputation through the lower third of the thigh, pus was found among the muscles, having ruptured the ligamentous coverings around the joint, and forced its way up along the facias, as it is always very liable to do in this class of injuries. The ball, which was a small one, either from a pistol or common sporting rifle, had penetrated the middle of the head, above the tubercle, and passed directly backward, escaping at a point a little below the place of entrance. The place of exit was somewhat larger than that of entrance.

In front, where the ball entered, a fracture extended downward a short distance into the tubercle. Above, a portion nearly the width of the diameter of the ball, and extending back to the spine, nearly half way through the bone, was forced upward into the cavity of the joint. This result was probably produced by the density of this part of the cancellated structure, which extends downward from the articulating surface about half an inch, and across the whole width of the bone.

The ball penetrating this structure in its lower parts, found greater resistance immediately around it than if it had entered further down. And as it was in close proximity to the joint above, where there was nothing to resist beyond, and immediately below, a less dense structure, the lateral pressure caused the perpendicular fracture. The same force that acted laterally, acting upward, caused the fragment to rise toward the cavity of the joint. And the soft, spongy structure below, which is more inclined to yield and crumble than split, prevented the fracture from extending further in that direction.

The cartilage upon the fragment, and for some distance both sides of it, also above the track of the ball where there was no fracture, was loose or absorbed, and more or less change had taken place upon the whole surface of the joint. The whole head of the bone was highly congested and infiltrated, and a bloody, vicious pus, very disagreeable to the smell, was escaping.

This case illustrates two peculiar conditions that may happen to this locality, and occur separately or combined, as in this case. The one obscure and present from the first, the other may or may not follow as a secondary lesion, where there is no fracture in the joint, and no judgment can decide this point beforehand; but when it does occur, it is to the patient equally dangerous *with* the first. The displacement is a very peculiar lesion, one that I have never met with in any other joint, and which, I believe, can not well take place from their form and structure, but which may frequently take place in this situation, and which

should be sought for in wounds in this locality, for if not discovered at the time, and the attempt made to save the limb, it will expose the patient to a secondary operation, in which he will lose at least twenty per cent. of his chances of recovery; or if left to nature, will most certainly die, as this case did with it.

The separation of the cartilage above the track of the ball, where there is no fracture into the joint, as there was in this case, often takes place, and is caused by the ball passing far enough from the articulating surface in the soft, spongy structure so as not to fracture or displace it, but near enough to contuse and crumble the fragile mass between the ball and surface of the joint, severing the vessels that supply the coverings within the cavity, or cause the infiltration and inflammation that may follow and destroy the joint, and imperil the life of the patient. And in active campaigns, where patients are far from permanent hospitals, where rest and thorough antiphlogistic treatment can not be had, the mind of the surgeon will be much perplexed which course to adopt, for there is no class of cases which he will be so much inclined to hope for or to doubt of.

Drawing No. 1 is that of an injury which was inflicted in a manner that seldom occurs to the extremities of any of the other bones. It was caused by a ball striking the articulating surface at right angles, and in a line parallel with the shaft. This took place when the man was resting upon his knees, fronting the direction from which the ball was fired. It was in this case accompanied by a slight injury to the condyle of the femur and the side of the patella, but it often takes place without either of these bones being implicated. From the frequency that the joint is thus exposed in action, by the men falling to protect themselves, or running under fire toward an enemy, it is a common injury. It has also taken place when the men were lying upon the ground. In two cases which I have seen, the ball entered the center of the bone, in that middle, porous section, between the articulating surfaces where the ball was still to be seen. There was an inclination to split the head, and this was particularly the case in one in which it had entered near the anterio-posterior center, in the vicinity of the spine, where the hard ridges that bound the articulating surfaces closely approach each other, and appeared to furnish hard, resisting sides, upon which the ball acted as a wedge. Another reason why it is inclined to split off fragments on the margin, that are wider than the ball, as it does when it strikes the head lower down, and from an opposite direction, may be found in the presence of that dense stratum that crowns the head of the bone. The surface of this joint is subject

to another injury, which I have seen occur but once. It is caused by a fracture of the femur above the condyle. The man resting the weight of the body upon the limb at the time, and as the support of the femur gave way, let the whole weight of the body descend, which forced the sharp spicula of the fractured femur into the posterior part of the cavity of the joint, penetrating the head in front of the posterior crucial ligament. This occurred to a cavalryman while standing beside his horse, not suspecting an enemy near. He was brought to the hospital at Ackworth, Ga., and when the limb was examined, the knee was found very much swollen, more than is usually found in cases in which it is wounded directly from a ball. Upon further inspection, the course of the fragment was discovered, but the opening to the cavity of the joint could not be detected. After amputation, however, it was found, and the swelling explained by the presence of a large amount of blood and serum, which had collected within the cavity. I have seen several cases in which the femur had made a deep plunge in the texture below it, and near the joint, but this is the only one in which I ever saw the cavity opened, or the head of the tibia penetrated.

ART. II.—*On the Ligature of Arteries to prevent Inflammation following Wounds of Joints.* By D. L. DUVALL, M.D., Forks Elkhorn, Franklin Co., Ky. Feb. 1866.

I desire to bring before the profession, a subject that so far as I am aware, is almost entirely new to the medical and surgical world. I mean the *ligation* of the main artery or arteries of a limb, for the purpose of controling destructive inflammation, which all other means have failed to relieve. If this idea has ever been advanced before the late war between North and South, I have failed to find it recorded in medical or surgical works. Therefore, in order to bring out the opinions of the many distinguished surgeons in America, on this subject, I propose to say a few words in regard to my own views and experience, in addition to others to whom I shall refer. The first time that my attention was called to this subject was during the recent war, in a Surgical Journal published under the auspices of the Surgeon-General of the insurgent States (S. P. Moore), at Richmond, Va., in which the author stated "that he had performed operations on patients whose limbs, after being wounded, presented all the indications of rapidly approaching gangrene from inflammation, when, fortunately for the patient, extensive hemorrhage ensued, which necessitated the ligation of one or more of the large arteries of the limb, and to his great surprise, rapid improvement began and the patient

recovered." Subsequently there was published by the authority of the same gentleman, for the use of the army, a Manual of Military Surgery, from which I make the following quotations:

Hunterian Ligation to prevent Destructive Inflammation.—"After the battle of Seven Pines, May 31, 1862, many of the wounded in the General Hospital at this place (Richmond, Va.) suffered from the most violent and uncontrollable inflammation. The inflammation from gunshot wounds, for sufficient causes, viz: the shock or jar to all the tissues, especially the nerves and blood-vessels of the part, is apt to be more intense than in other wounds of the same part. Wounds of both the upper and lower extremities resisted all ordinary measures of treatment. Suppuration in many had ceased, and, in its place, a bloody water was discharged from the openings and abrasions. The swelling in these cases was immense. Six of the above cases, under our observation, were the subjects of arterial lesion. The arteries wounded in the lower extremity of three of these cases were, severally, in one, the peroneal, close to its origin; in the other two, the anterior tibial, near the middle of the leg. Profuse secondary hemorrhage occurred in all these cases, respectively, on the fourteenth, twelfth, and tenth day. Ligation was determined on. The extreme swelling and inflammation of the limb extending even above the knee in all, and in one, marked by large patches of *incipient gangrene* on the foot, presented great embarrassments to the operation at the seat of lesion. It was not the difficulties, however, which caused Mr. Hunter's operation to be performed in all these cases to Mr. Guthrie's, notwithstanding the risk of recurrent hemorrhage. There was desirable *incidental benefit* hoped to be attained, which was of even deeper interest, if possible, than the arrest of the hemorrhage. The idea pursued in departing from the rule, was no less than *the experimental effort to cure the inflammation in the limb by cutting off its arterial supply, by ligation of the main trunk which supported that inflammation.* The femoral artery was tied in each case near the apex of Scarpa's triangle. The hemorrhage ceased immediately in all three of the cases. The swelling began to decline within twelve hours, and in three or four days the limbs were reduced to very nearly their natural size, the discharge having changed from the bloody water to healthy pus. *Results:* Two of those cases recovered rapidly, and the third slowly, on account of the sloughing out of the patches of *gangrene*, which had shown themselves previous to the ligation. These surfaces granulated healthily, and cicatrized firmly, though the suppuration was profuse and long-continued."

It would be well to remark, that in one of those cases, "after the swelling had been completely reduced, the fibula was found broken. Still, the case progressed well. "In the three cases of arterial lesion in the superior extremity, in which ligation of the main trunk in its continuity was preferred, *in order to subdue inflammation*, the arteries wounded, respectively, were the brachial, near elbow, in one, and the radial in both the others. The inflammation was greatly modified, though not in so marked a manner—except in one of them—as in those of the lower extremities. The patients all recov-

ered, and in two of them, recurrent hemorrhage took place, but was controled without resorting to further ligation. In the exception mentioned, no recurrent hemorrhage occurred, and the inflammation seemed to be completely strangulated throughout the hand and forearm by the ligation of the brachial artery." It will be observed that in the above six cases, in which the rule of Mr. Guthrie was departed from, recurrent hemorrhage took place in three of them, but only in one in such a degree as to require an operation. The advantages gained in departing from the established rule would be more apparent from a detail of the cases than in the above very condensed notes. The cases I refer to more in illustration of the circumstances in which departure from the rule may be considered justifiable, than with any view of advocating the Hunterian practice in opposition to the more reliable one of Mr. Guthrie.

"And lastly, though there are doubtless many other considerations which may justify the ligation of an artery in its continuity in the treatment of hemorrhage, we will refer to but one more; for instance, suppose a patient in a state of extreme exhaustion, whether from hemorrhage or other causes; consecutive hemorrhage in some inaccessible artery, for instance, as the peroneal or posterior tibial high up, occurring in a patient of this kind, especially if complicated with great tumefaction and consequent change in the histology of the parts, would present a case even for the most practiced operator, of unavoidable delay. A prolonged and trying—we had almost said a blind—search among clots and fibrinous masses and condensed infiltrated tissues, every one who has tried it knows full well, is sometimes the only route to the open mouth of the bleeding vessel in such cases. This greatly exhausts the strength of the patient, and lessens, indeed destroys, his chance of life. Under such circumstances, the Hunterian operation would be preferable, especially in a wound of the lower extremity. In the first place, it arrests the hemorrhage for the time being at least, and affords a *chance* of even permanent arrest; and secondly, by cutting off the main stream from the support of the inflammation and general turgescence, the condition of the limb may be so improved that, in case the recurrent hemorrhage should return, a less embarrassing state of things will attend this more desirable operation. The adoption of the one operation gives a chance for life; we think we have seen the adoption of the other, under just such circumstances, take it away."

I have made extensive quotations from this book, because it corroborates my own experience, and accords with my own views, which, I think, are founded on the plainest and simplest truths of physiology and pathology, now taught by the profession, and so generally understood as not to require reiteration here. As this article is now longer than I expected to make it, I will conclude by simply referring to another case, as corroborative evidence of what has been said. After the battle of Chickamauga, Sept. 19th, 1863, there was a Federal soldier belonging to an Ohio regiment (from the loss of my surgical record I will have to trust to memory in this case), who received a gunshot wound through the left leg. Ten days after the injury profuse

hemorrhage ensaed from the wound, with intense swelling, with a watery discharge issuing from the orifice, and the enticle of a deep—almost purple color, indicating extensive congestion, inflammation and extravasation. I adopted Guthrie's mode of procedure, following the track of the wound until the orifice of the bleeding vessel came in view, which proved to be the peroneal artery, close to its origin—so close as to preclude the idea of ligating the wounded vessel, thus necessitating the tying of the posterior tibial above the seat of lesion. The surgeon who assisted me was confident, from the condition of the limb, and the cutting off of this source of supply, that mortification would follow, and the final result be amputation of the limb. But, to our surprise, on the third day after the operation, the swelling had almost subsided, healthy pus was being discharged from the wound, cuticle almost its natural color, and in ten days more (twenty from date of injury), the patient had so far improved that he was able to be removed to General Hospital at Richmond, Va. How this case terminated I had no means of ascertaining; but from the favorable condition in which he was when he left Field Hospital, I am inclined to believe that speedy recovery followed.

I find, as I progress with this subject, that it involves so many issues, that in an article of this length, full justice can not be done it. Therefore, I will leave the further discussion to abler heads of the profession, should they deem it worthy their time and attention.

We have been much interested in the above paper, but by referring to our edition of Mott's Velpeau (*Operative Surgery*), vol. 1, p. 679, it will be seen that compression of the arteries has frequently been resorted to for the purpose of modifying, or controlling neuralgia, congestions and inflammations. Mention is also made of several instances in which the artery has been ligated with the same object in view. But the earliest case reported, we believe, of the ligature of the femoral artery for a wound of the knee joint, is that in which the operation was performed by Dr. Henry U. Onderdonk, of N. Y., and who, if we mistake not, afterward became a prominent Episcopal clergyman. His operation was performed on June 17, 1813, and was reported in the *American Medical and Philosophical Register*, vol. iv, p. 176. The patient was cured. Next we have the case reported by Dr. David L. Rogers, of New York, in the *New York Med. and Phys. Journal*, for Oct., Nov. and Dec. 1824. "The case was one of a simple wound in the knee, penetrating the joint. It attracted little attention, the man using freely spiritous liquors in the first days of the disease. It became more inflamed, and amputation appeared to be necessary. The femoral artery was taken up, and the man got well by the 25th day. This plan is recommended to lessen inflammation in compound fractures, and dislocations of the ankle, where an effort to save the limb is advisable. Should, however, there be danger of tetanus, which does not appear to be governed by the increase or diminution of arterial excitement, amputation would be advisable in many instances, in preference to taking up the artery in order to abate inflammation. When these injuries occur in

young subjects, with unimpaired constitutions, and enjoying the benefits of country air, the attempt to save the limb should, undoubtedly, be made, and then the measure of tying up the artery would be advisable. . . . . He (Dr. Rogers), then gives a case of compound dislocation of the ankle, in which the operation of tying up the femoral artery was practiced by Dr. Mott; trismus supervened on the 7th day from the accident (the wound of the ankle till then doing well), and the patient died. The danger of mortification from defect of circulation would at first sight appear to be an objection to this operation. Dr. Rogers then subjoins two interesting cases, which show that danger from this source is less than might be immagined."

We copy the above from the *Medical Recorder*, vol. 8, Ap. 1825, pp. 375–6. The other cases referred to are two of wounds of the elbow joint, and the brachial artery in performing venesection. We have room for the first only:

"A lad, aged 16, was brought to the hospital, July 4, 1821, with an extensive laceration of the arm, which he received from the discharge of a gun while imprudently resting his arm upon the muzzle. The discharge entered his arm about the elbow joint, tearing off the integuments for six inches in length and three in breadth. The nerves, veins and arteries lay like cords on the surface of the wound. The muscles lacerated in such a manner as to destroy the appearance of their original structure. The bone laid bare, and in some cases denuded of its periosteum; he lay for some hours weak and exhausted; his pulse was weak and small and quick. The extent of the wound led the attending surgeon to believe that the brachial artery, or some of its large branches were divided, and hemorrhage was expected from the wound, as the system recovered from the immediate shock of the accident. To lessen inflammation and prevent hemorrhage, the brachial artery was secured by ligatures as it passes out from the axilla; little hope was entertained of saving the arm, but to the astonishment of all who saw the case, there was merely sufficient inflammation in the wound to produce healthy suppuration and granulations. He suffered but little pain during his recovery; and I may venture to assert there was no more inconvenience experienced from this lacerated wound, than there would have been from a simple incised wound of the same extent, where the circulation had not been interrupted. He recovered rapidly, and in the course of a few weeks left the hospital in good health."

We had the pleasure of meeting the distinguished and venerable surgeon, Dr. David L. Rogers, at Harrison's Landing, in 1863. He spent a few weeks at General McClellan's Head Quarters, where he was also assigned to duty, and among the first surgical cases reported to us, there was one in which the femoral artery had been successfully ligated by him, or at his suggestion, for a gunshot wound of the knee joint. At present we have neither time nor space to enter into a fuller discussion of the merits of this practice, and will only remark that we regard the ligature of the femoral artery as a very serious operation. Statistics show that about one in four die from the operation. We are aware, however, that remarkable success has followed the practice of certain surgeons. Thus at the time of the publication of our edition of Mott's Velpeau, Dr. Mott, as he himself informed us, had ligated the femoral artery

53 times, and had lost but two patients. The late Dr. J. Kearney Rodgers, of New York, informed us that he had lost but one out of some seventeen cases, and Mr. Busk, of the Dreadnought Hospital, tied the femoral artery in nine cases without the loss of a patient. Prof. Syme, up to 1847, had tied it sixteen times "without experiencing any bad effects from the operation." In his *Contributions to the Pathology and Practice of Surgery*, Ed. 1848, he strongly condemned the treatment of aneurism (popliteal), by compression, which was strongly recommended by the Irish surgeons. His opinion at that time of the danger of ligating the femoral artery, may be inferred from the following extract from his '*Contributions*:' "The question between ligature and compression seems very much the same as that between passing a catheter and puncturing the bladder for retention of urine. If the surgeon can with safety relieve his patient by means of the catheter, he should certainly do it. But if instead of drawing off the water, he can only lacerate the urethra, and make false passages through it, his duty is plainly to thrust a trocar into the bladder. If it is in his power to afford relief by the catheter, he is bound to do so; and on the same principle, so long as it is my sincere persuasion that ligature of the artery is preferable to pressure for the cure of popliteal aneurism, I shall deem it my duty to pursue this method, though it may not, perhaps, be the best adapted for the lowest capacity of surgical practice. Puncture of the bladder and compression of the femoral artery, may be useful expedients when circumstances forbid the adoption of better means—and I am far from desiring that either the one or the other should be excluded from the practice of surgery, but it would surely be unreasonable to insist upon these clumsy, painful, and I will add, dangerous methods of treatment being employed on all occasions, instead of those which, when properly executed, are easy, gentle and safe."

When properly executed, says the Edinburgh professor, the ligature of the femoral artery is "perfectly safe." Now let the reader turn to the valuable "Statistics of Ligature of the Femoral Artery," published in the *American Journal of Medical Sciences*, Oct. 1849, and drawn up by that excellent surgeon, Dr. George W. Norris, of Philadelphia. Commencing with the case operated on by John Hunter (1785), we have the following names attached to fatal results after this "perfectly safe operation:" John Hunter, Birch, Cline, Chopart, Deschamps, Pelletan, Home, Scarpa, Blizard, Dickinson, Physick, Liston, Carmichael, Sir Astley Cooper, Benjamin, Travers, Aston Key, Dupuytren, Sir Chas. Bell, Carlisle, Breschet, Perry, Turner, Harris, Cheesman, Sabine, Judd, Knox, etc., etc. We have given the names as we find them opposite the fatal cases in Dr. Norris' table, and among them surely are those of surgeons who were capable of "performing the operation on proper principles," when Prof. Syme regards it as "perfectly safe." In the edition of Syme's Surgical Works, edited by Dr. Maclean, and recently published by Lippincott & Co., at p. 124, Prof. S. remarks that "if the femoral artery be tied with proper care, there appears to be little or no danger from the operation. I have performed it thirty-three times without any bad consequences." At p. 128 he writes, "Though the ligature of the femoral artery is not attended

with much difficulty, it is frequently followed by bad consequences. It has long been my conviction that these depend upon the operation being too easy, and, therefore, conducted without sufficient attention being paid to the circumstances above mentioned, in regard to exposing the artery and avoiding the veins." In exposing the artery, he but follows the course laid down in every modern work on surgery, making but a limited opening in the sheath, etc., etc., and it is presuming much even for that distinguished surgeon to claim that he alone is competent to perform the operation on correct principles. The mortality following the ligature of the femoral artery during our war has, indeed, been most fearful. According to the reports of the Surgeon General in Circular No. 6, out of 108 cases, there were 83 deaths. But as no details are given, we have a right to infer from what we know of gunshot injuries requiring this operation, that death, in many cases, has been due to the nature or magnitude of the injury rather than to the ligature of the artery.

One singular fact is shown by Dr. Norris' statistics which may be advanced in favor of ligating arterial trunks to prevent or control inflammation, that *gangrene*, although occurring in 31 out of the 204 cases, followed no operation, except where it was performed for aneurism, and yet Mr. Guthrie, in his commentaries, as is well known, makes the following statement: "Mortification of the foot and leg, and often of the whole limb, followed by the death of the person, is a common occurrence after a ligature has been placed high up on the artery of the thigh, in consequence of a wound; while it is not so common an occurrence when such operation is performed in the same place for an aneurism of several weeks standing." G. C. B.

Diagnosis of Fracture of the Ribs.

Often after an injury it is difficult to detect whether there be a broken rib or not. If the rib has been broken posteriorly beneath the thick layer of muscles there situate, by a blow on the part, there is frequently much contusion and you may not be able to get any decided evidence of broken rib by examination at the injured spot. Place the patient upon his back and then press on each rib anteriorly at the side of the sternum, commencing at the first rib and going downward. The ribs being fixed behind, by this plan of procedure you move the broken ends on one another and produce pain; you thus can tell with accuracy which rib or ribs are broken. If the continuity of the arch be complete, pressure at one end will not cause any increase of pain in the course of the rib. You may hear crepitus in the broken bone, by the ear simply, or through the stethoscope placed over the site of fracture, while the patient takes a deep inspiration."—John Hilton, F.R.S., *Guy's Hospital Reports*, vol. xi, 1865.

PRACTICAL MEDICINE, PHYSIOLOGY AND CHEMISTRY.

ART. I.—*The Progressive Locomotor Ataxia (ataxie locomotrice progressive).** By ROBERTS BARTHOLOW, M.D.

[*Continued from the April Number.*]

We describe the phenomena of the second period in the order in which they usually present themselves.

Numbness.—The ataxic allude under this name, to an internal sensation of heaviness, seated in a part or whole of a member, as if it were asleep. The numbness is a phenomenon, connected with the general sensibility, but distinct from the sense of touch, of heat, of pain, and from the muscular sensibility. It is a perversion of the functions of the sensitive nerves, as is the pains or the tingling. Some patients employ the words *numbness* and *tingling* as convertible terms. *Kelch*, so employs them in describing his sensations. The tingling, however, he refers to his forearms and hands, especially the right, more than to the inferior extremities. It corresponds to the distribution of certain filaments of the radial nerves and is accompanied by uncertainty of touch and inability to use his hands properly. As remarked in the history of his case, he had been unable for sometime to use his knife and fork. This sensation, however, did not extend to the trunk as it does in many cases.

Cutaneous Anæsthesia.—Anæsthesia is one of the habitual symptoms of the progressive locomotor ataxia. In 109 observations, this symptom, complete or incomplete, was present in 76 cases, very lightly in 15, and not at all in 18 cases. It was very manifest in our patient, Kelch. A diminution, perversion, or exaltation of sensibility is found in this malady in the skin and in the mucous surface accessible to our investigation; but we have here in view the cutaneous anæsthesia, chiefly.

---

* It having come to my knowledge that some persons consider my reference insufficient to the work of Dr. Paul Topinard (*De L'Ataxie Locomotrice Progressive, et en particulier De la Maladie appelée Ataxie Locomotrice Progressive. Paris*, 1864.), I beg to inform the readers of the Journal, that my intention was, by the term, "liberal use of the essay," to express the idea of a synopsis of such parts as suited my purpose in the preparation of my article. As the work is a voluminous one, it would be impracticable to present a translation in the number of pages allotted to me. The present, as the former article, is a synopsis chiefly of the views of Dr. Topinard.

R. B.

M. Beau recognizes two modes of sensibility in the integument—one special, or sensorial, as the sense of touch; the other general, as the sense of pain. M. Landry distinguishes a third, the sensibility to temperature.

When the anæsthesia is complete there is no difficulty; but if one or two of the three kinds of sensibility, only, is involved and that lightly, it is important to apply the best and most delicate tests. An examination of the ataxic to be complete should be extended to the four members, to the trunk and face, and to many points in the various regions, which habitually, are very unequally and differently affected. The prick of a sharp pin, pinching with the nails and with an artery forceps, plucking the hairs, tickling, the successive application of one or more fingers, of cold or hot bodies, the electric shock, may all be applied to determine the extent of the anæsthesia. When it is difficult to determine the modification of sensibility, comparison should be made between two symmetrical points, as the plantar surface of the feet, the inner faces of the thighs, the forearms, etc. Incomplete anæsthesia, as the numbness, advances step by step, from the plantar surface of the foot toward the pelvis and trunk. Its intensity is stronger in the part primitively affected, and its superior limit is not well defined. For example, the plantar surface of the foot, is without sensibility to touch, to pain or to tickling, the calf of the leg is somewhat more sensitive, the thigh is slow in transmission of the impression only, and the belly is normal. In the superior extremities the anæsthesia is experienced in the fingers, especially the ring and little fingers, diffuses itself over the rest of the hand and forearm, rarely passing above the elbow; but it reappears in the neck, in the inferior half of the face, and extends to the tongue, to the internal face of the jaws and to the vail of the palate. In our patient *Kelch*, this partial anæsthesia was confined to the hands and forearms—the ring and little fingers being more affected than the rest of these parts. The two halves of the body are not necessarily symmetrically affected. Thus one arm, one side of the face, of the tongue, is affected, while the other side may not be.

The sensibility to pain is diminished or abolished in places, in regions or in the whole extent of a member. The part affected may be pricked and the blood drawn without evidence of pain, but it is indispensable that the point of the instrument be exceedingly fine, for an ordinary pin will arouse the sense of touch. Pinching with the nails, which is easily graduated, has not this inconvenience. The sense of touch is habitually altered. The patient is deceived as to the real cause of an impression and as to the point at which it is made. He does not dis-

tinguish the touch of one or more fingers, from that of some other object. He confounds a small roll of paper with a pencil. The consequences of tactile anæsthesia may be, thus, attributed to ataxia.

Trousseau and Duchenne have observed that the thermoscopic sensibility continues in the ataxic. It was hence supposed that this constituted a means of differential diagnosis between progressive locomotor ataxia and other affections of the cord, but subsequent investigations have shown that this view is erroneous; the thermoscopic sensibility may exist in various diseases of the cord.

Muscular Anæsthesia.—The sentiment of muscular activity, the muscular sense, the muscular conscience, are synonymous terms, clearly separable, however, from the muscular sensibility.

Several methods may be adopted to ascertain the state of the muscular sensibility. The electrical method is mathematically accurate. It is applied as follows: the skin having been dried with some absorbent powder to neutralize the superficial effects of the electricity, a current of variable intensity is passed through a muscle in the direction of its length. In the physiological state this current determines a contraction, but in addition thereto, a dull sensation if it is feeble, and a pain if it is strong. This sensation—as was the case in our patient Kelch—whatever may be the intensity of the current, is in the ataxic, either very feeble or null. We thus measure the electro-muscular sensibility as it is called. The second method is more easy of execution. This consists in ascertaining the degree of sensation produced by pinching with the pulps of the fingers a sufficient quantity of the skin; afterward of a portion of healthy muscle, the sterno-mastoid, or biceps for example. This pressure graduated at will, may be made to produce acute pain. The suspected muscles are afterward explored in the same fashion. It is rare that the responses of the patient, how little intelligent soever he may be, leave any room for doubt. The third method is more especially to determine the state of the muscular sense. It is based upon this: In the physiological state, without having recourse to our sense of vision, we are concious of the direction which the will imposes upon our members, and of the precise point at which a movement is arrested. The use of the eyes is necessary to the ataxic, to conduct his movements.

It is also useful to ascertain the degree in which the patient possesses the faculty of appreciating the weight of bodies, or the knowledge of the amount of muscular force necessary to raise a given weight. With this view different weights are placed in his hands, and his appreciation of them noted.

Locomotor Ataxia.—The locomotor ataxia is described in general

terms by Topinard, as a disorder of the function which presides over progression, equilibration, and other voluntary muscular acts, not caused by paralysis, muscular atrophy, deformity of the skeleton, etc., and different from paralysis agitans, chorea, or general or partial convulsions tonic or clonic.

The phenomena of the locomotor ataxia are to be studied as they manifest themselves in the inferior extremities, in the superior extremities, in the face, etc. Those partaining to the inferior extremities are most interesting and important. In our patient Kelch, as indeed in the greatest number of cases, the uncertainty of locomotion was most manifest in the morning in dressing. Sometimes it is felt in the street, more often in the evening and in darkness. They experience pain in mounting the stairs, or in stepping up on to the pavement. They continue to attend to business, but find they grow more readily fatigued than was their wont. A strong emotion, a slippery pavement, or the exertion to avoid an approaching carriage causes them to trip and fall unless there be some ready support at hand. Already they appreciate the utility of vision, and say that the disorders of locomotion are exaggerated because their attention is withdrawn from their own movements. To give them assurance in walking, they must have the idea that some one is near to succor them. The fears which they display, come of the experience which they have acquired of the instability of their movements and insufficiency of their support, and do not prove pusillanimity. Some authors have imagined that the defects of control of the voluntary movements are only experienced by the patient in the erect position; but they are also observed when he is in the recumbent position. When the patient gets under the bed clothes he extends himself by a quick and rough movement. If he be desired to execute a given movement, the muscles become rigid, the foot is extended upon the leg, the leg upon the thigh, and the limb, all of one piece, launches out at a single bound, or by irregular jerks, in the desired direction. The motions of the pelvic-femoral muscles, are most visibly ataxic. Intelligent patients explain the rigid extension which they instinctively give to the foot and leg in executing a given movement, by saying that their muscles are more rebellious to the will in intermediate attitudes.

When the patient is required to assume the erect posture, and place his feet together, he is seen to oscillate from side to side, betrays a certain anxiety, stretches out his arms like a ballancer, in spite of himself, and finally falls.

In walking the ataxia assumes considerable proportions, in many cases; in others, however, it is almost inappreciable. To facilitate the

description, we distinguish arbitrarily, in respect to intensity, three degrees of ataxia.

In the first degree the patient raises his feet roughly, one after the other; they describe the arc of a circle with the convexity turned out, without dragging upon the floor; the toes elevate themselves a little in advancing, and the heels turn in toward each other, striking the ground with force. He walks without decision, and can not place his feet where he desires.

In the second degree, the walking has been compared to that of a man inebriated, or to that of a landsman on a sailing packet, or to that of a rope dancer. An examination of the muscles discloses the fact that the flexors and extensors are hard and stiff. The triceps forms a considerable protuberance, which gives to the limb a special and forced configuration. The walk is carried on by the aid of the pelvic-femoral muscles. The feet are raised quickly, are jerked forward, the toes being elevated.

In the third degree of ataxia the patient is unable to step without holding on to a chair, to the bed post, or without being supported by two attendants. The sole of his foot seems in perpetual search of a point of support which continually escapes. Sometimes one of the feet turns into such a position that its outer side rests on the ground, and its dorsum appears in advance; or one leg, describing a great circle, becomes locked behind the external malleolus of the opposite limb.

It is difficult to describe the precautions and the stratagems which are used by those patients who have retained the use of their arms, in getting out of bed on to a chair and in pushing up to the stove. Their attention is applied to avoid the most feeble voluntary movements, they dare not abandon their caution for an instant, knowing that the first effort of muscular contraction will be the signal of an agitation which all their efforts can not repress.

In the superior extremities the ataxic disorders are less characteristic, and, also, less frequent. In *Kelch* they were marked and came on early. In 118 cases collected by Topinard, the ataxic disorders extended to the upper extremities in 46 cases, and in one only, were limited exclusively to these members. There are some differences, also, in the phenomena observed, due to certain differences in the physiological properties of the lumbar and cervical enlargements of the cord.

To discover the troubles of co-ordination of the superior extremities, many methods are employed. They were disclosed in *Kelch* by an inability to use his knife and fork. The patient may be desired to make the sign of the cross, to carry his index finger to the extremity of his

nose, to pick up some small object, etc. His movements may be examined when he eats, dresses, sticks a pin, ties a cravat, etc. These ataxic disorders appear in the upper extremity usually after they attack the lower; sometimes in the two extremities simultaneously. The first indication of them is seen in the awkwardness of the patient in performing the various acts above mentioned. He does not touch directly with the index finger, the point of his face which is designated to him. In all those acts in which the sense of touch is employed, and in picking up small objects, the ataxia becomes plainly visible.

In the third period, all of the symptoms of progressive locomotor ataxia have become general; the signs of the first and second period are united, much more intense and occupy a more extended surface. The movements are frightfully irregular and disordered in the erect position; prehension is impossible; cutaneous anæsthesia extends to impressions of heat and cold; the muscular anæsthesia is absolute; the muscular sense is abolished; there is incontinence of urine and fæces, and lastly, a true paralysis supervenes.

State of the Muscular force.—The ataxics are in general vigorous subjects, well nourished, whose muscles are hard and prominent, and limbs are voluminous. A small number, on the contrary, are irritable characters, hypochondriacs and feeble.

Before using the dynamometer to ascertain the state of the muscular force, the physician must study the constitution, temperament, idiosyncrasies of the subject, the lowering of his vital forces by mental depression, insomnia, bad hygiene, by the sojourn in hospital, etc. A simpler method than the use of the dynamometer, is that employed by Topinard, as also by Duchenne. For the muscles of the arm, shoulder, thigh, leg or foot, they should be placed in the attitude to insure their maximum contraction, and the patient should be directed to maintain, with all his force, this position; the degree of force necessary to overcome this resistance, will be a measure of the muscular force. It is sometimes necessary in the same subject to compare sound with affected muscles, or one side of the body with the other.

The fundamental condition of the ataxic paraplegia of Todd, and the progressive ataxia of Duchenne is the integrity of the muscular force. This proposition of Duchenne, is a little too absolute. Ordinarily the ataxia exists with persistence of a sufficient degree of muscular force to preclude the idea of paralysis; but, also, in a great number of cases there is a progressive feebleness, more apparent in the regions where the evidence of the other affections is most prominent, due to the influence of the cord upon nutrition and to an alteration of the motor parts

of this organ. Finally incomplete, and sometimes, complete paralysis is a remote termination of the malady. The anatomy and physiological pathology of this disease agree perfectly with this view. Considered with reference to the periods, it is certain that integrity of the muscular force is a character more constant in the second, although its diminution is an indication of aggravation of the lesion in the cord.

Course and Duration.—The course of the malady has been sufficiently indicated in the preceding pages. The duration of the first period only, can be approximatively fixed. We have before remarked that it oscillates between some months and twenty years; it averages from four to five years. From the origin of the disease, indicated with more or less clearness by the pains, the ocular troubles and the ataxia, to the second period—in 4 cases the duration is spoken of as months; in 6 cases as one year; in 27, as from two to three years; in 47, as from four to seven years; in 17, as from eight to fourteen years; in 18, as from fifteen to thirty years. The average is seven years. We have seen that in our patient Kelch, the duration of the first period, was somewhat less than one year—taking as the point of departure from the state of health, the sudden occurrence of spermatorrhœa. If, however, we assume that the ocular troubles were the first symptoms in his case, six months will include the whole course of the malady, so far as it had developed itself. There can be no question that the sexual disorder was the first symptom. It will be perceived that the phenomena observed in his upper extremities, were those of the first period, and not of the second. We have consequently no means of determining the duration of the first period if its evolution had not been interfered with it. As Topinard's statistics show, somewhat more than four per cent. had a duration less than one year.

Complications.—These are divisible into two classes: those pertaining to the cerebro-spinal axis; those of other parts of the body. Among the first are spinal meningitis, congestion and softening of the cord and of the brain, general paralysis, and progressive muscular atrophy.

Cephalalgia, dizziness and intellectual disorders which sometimes accompany the ocular derangements, must be viewed as complications. Some patients complain of loss of memory, and forgetfulness of certain words, certain events, etc. Others present various hallucinations. Mania or dementia, is found at an advanced period—the termination of the second or in the third period.

The complications of the second class are either acute or chronic. Of the acute affections, cystitis, enteritis and erysipelas are the most frequent. Cystitis usually results from the prolonged retention of the

urine—the bladder expelling it but in part. The symptoms first observed, are those of sub-acute, afterward of chronic cystitis. The inflammation extends along the ureter to the kidneys, and finally gives rise to urinous fever and putrid infection. The occurrence of enteritis, Topinard is disposed to ascribe to the prolonged use of the nitrate of silver, the remedy so much vaunted by Wunderlich in the treatment of the progressive locomotor ataxia. Of the chronic affections, phthisis pulmonalis is most common. In 44 deaths, 13 were attributed to this cause.

FORMS.—The *common form* presents two distinct periods—the first and the second—or begins by locomotor ataxia, and has for characteristic the appearance, sooner or later, of functional disorders of the cranial nerves, of which the ocular troubles are the most important. In the *paraplegic form*, the affection is limited to the inferior members. To distinguish this from an ordinary myelitis, it is necessary to pay great attention to the progress of the case, to the physiognomy of the symptoms and to the characters of the ataxia.

In the *cerebral form*, cerebral phenomena are added to the symptoms of the common form, indicating morbid alterations in the brain corresponding to those affecting the cord and the periphery of the cranial nerves. Cephalalgia, changes of humor, loss of memory and delirium are the cerebral derangements characteristic of this form.

Our author strongly objects to the so-called *acute form* of this disease in which the total duration of it is limited to some months. The age of the subject (referring to one of these cases reported by M. Bourguignon), the rapid succession of the accidents, the total duration of four months and a half, the prompt and radical cure, are all in contradiction with the mass of our observations. He therefore rejects this form, but it seems to us, on insufficient grounds.

(*To be continued.*)

ART. II.—*Diseases of the Heart: Illustrated by Cases.* By WM. CARSON, M.D., Physician to St. John's Hospital.

The following cases are given as, 1st, bringing forward a symptom, which, though its clinical import was not doubtful, yet its physiological aspect is not satisfactory.. 2d, as illustrating the views of recent authors on dropsy, particularly cardiac dropsy

Mrs. E., aged, when this history begins, about seventy; rather slight figure and healthy appearance; habits had always been regular and active, circumstances good, equable temper and faculties clear. Perhaps three or four times in the preceding year, she had mentioned ringing noises in her ears, and vague sensations in the precordial region. They were momentary and not amounting to pain, and troubled her as often when quiet as when in motion. Subsequently, when at the table, she spoke of a passing dizziness, which scarcely lasted long enough to be noticed by those present. The next attack was occasioned by the effort of ascending a moderate grade on one of our streets, when she grasped suddenly the person upon whose arm she was leaning, as she believed she was about to fall. There was some dyspnœa and giddiness. In two or three minutes she was ready to proceed. On the next occasion there was loss of consciousness and syncopal appearance. It continued a very short time. These had occurred at varying intervals of time of from two to eight or ten weeks. Subsequent paroxysms partook of the epileptic character, and finally developed all the phenomena of that state, in convulsive movements, pallor, unconsciousness, dilated pupils and irregular or suspended respiration. The subsidence of these symptoms and return to consciousness was complete within a few minutes. There was no paralysis at any time, all occurred in daytime and several times daily. This first series ended with the exhibition of the severest symptoms of epilepsy. The following interval was about two months. The next series lasted four days, the last being again much the severest. For twenty months she was free. At that time she complained of derangement of stomach, for which, without advice, she took cathartic pills. They acted excessively. A paroxysm ensued, with epileptic and pseudo-apoplectic phenomena. She never recovered complete consciousness, but died quietly after all convulsive movements had ceased. The existing causes, assignable for the first series, were exhaustion and anxiety in attending the dying bed of a favorite daughter. Loss of appetite and an anæmic state followed. As to the remote conditions, an examination was made at the beginning of these syncopal and epileptic seizures, with the following result: Cerebral functions good, with the exception of slight impairment of memory; had never suffered unusually from headache; vision as good as you might expect at that age; hearing somewhat impaired; lungs healthy; pulsations of the heart from thirty to forty, these figures being the extremes; ventricular contraction slow and feeble; rhythm good; no abnormal sounds; point of impulse between the fifth and sixth rib and left of the nipple; area of precordial dullness not increased; pulse at the wrist corresponded with the systole of the heart and quite compressible and

soft. No renal disease. The inference, after this examination of the case, was that the convulsive attacks were due to a deficient supply of blood to the central nervous organs, owing to the slow and feeble action of the heart. It seemed to be a case of cerebral anæmia, analogous to the artificial state induced by Sir Astley Cooper's experiment of tying the carotids of a rabbit, and compressing the vertebrals, by which convulsive movements were induced or removed according to the continuance or removal of the pressure. That the amount of blood in the brain can be diminished by such means, was shown by the experiment of Donders, who trephined a rabbit and fastened a glass in the opening, so that the circulation could be seen. During pressure upon the carotid arteries, some of the smaller vessels entirely disappeared and others materially diminished. Sir Astley's experiment showed that convulsions ensued when the blood supply was cut off even for a few seconds. In this case the conditions were analogous. There was feeble and slow heart action, which was still further depressed by emotional and physical causes. The sequence of convulsion could never be distant and might be induced by slight causes. The treatment was directed toward giving tone and strength to the feeble heart and general system. Brandy, beef tea, iron and valerian, with entire rest, were enjoined. The effect of these was to diminish the frequency of the seizures, and finally to end the first series. The pulse became a few beats more frequent, but never, during a period of two years, while she was more or less under observation, did it rise above forty. The lowest number of beats was noticed soon after or during an attack.

An unequivocal diagnosis is not so easily obtained in these as in many cases of heart disease. From the history of the case, the absence of any serious cerebral disease, and by excluding all other diseases of the heart, we assumed it to be fatty degeneration of that organ. There was a combination of symptoms in the feeble and unusually slow, but regular action, the absence of murmur, in the natural area of dullness and weak impulse, that clinical and post-mortem investigation unite in attributing to that condition. The relation of the slow pulse to this case is not easily defined. It was once believed to be diagnostic of the fatty heart, but many cases occur in which it does not appear. It is not the epileptic pulse, though an "inhibitive influence" may be developed during the paroxysm. The effect which excitement of the medulla oblongata, the nervous center especially affected in epilepsy, may have on the pulse, will be alluded to presently. Reynolds, on Epilepsy, says in his conclusion, No. 9, "That it is more frequently found associated with a pulse equal to the average of health, than below the average; and that the mean frequency of the pulse in epileptics is above that of individuals of the same age not epileptic." The slow pulse, of cerebral origin exclusively, is noted as strong and full, which was not the case here.

The physiological activity of the heart depends upon healthy blood, normal muscular fiber and nervous supply. The action of certain poisons, circulating in the blood, is to render the heart's pulsations slow. In more than half of twelve hundred cases of lead colic, noticed by Tanquerel, the pulse ranged between thirty and sixty. The same effect is sometimes produced by

jaundice. No such causes operated in this case. There was anæmia probably, but the anæmic pulse is a quick and excitable one. Experiments have also shown that the heart will contract for hours after removal from the body, when there can be no influence exerted by the blood.

Fatty infiltration, impairing the integrity of the muscular fiber, would naturally produce imperfect contractile power. That imperfect power would seem to be exhibited sometimes in a frequent, and sometimes in a slow pulse, so that degeneration simply of the muscular fiber does not seem to account for the anomaly. It is undoubtedly one element at fault, and for the other we shall have to look to the nervous force and its changed relations.

The source of the motor power of the heart is still a disputed question among physiologists. Carpenter, after discussing the various sources, concludes that "the movements are due to the vital endowments of its muscular tissue." More recent views attribute to the ganglia and nerves so freely distributed within the substance of the heart an important if not controlling influence. Mr. Paget has maintained that "the rhythmical movements of the heart are ruled by these nerve centers, and that in the dead heart only, each fragment that contains one or more of these ganglia, has the power of rhythmical action, and that when they are crushed that power is destroyed." Golz (Sydenham Year Book, 1862) adopts the following conclusions from his researches: 1. The pulsating parts of the frog's heart constitute together a system of small, independent apparatus, each of which is possessed of a ganglionic, central organ. 2. These small nervous centers are capable of being incited to action by various stimulants, and this action manifests itself according to its intensity, in more or less protracted contractions of the muscles, governed by the stimulated center." Volkman argues that "the ganglia within the heart's substance supply a larger share of nervous influence than the medulla oblongata." The effect of veratrum viride and digitalin on the heart may be referred to these ganglia if the experiments of Dybkowsy and Pelikan (Syd. Year Book, 1862) be reliable. They state as one result that the action of ver. vir. and digitalin "is not delayed or altered by destruction of the medulla oblongata, or division of the vagi, or previous administration of woorara." Holm says of ver. vir., "death results from paralysis of the heart, apparently from a direct action upon its muscular tissue. The motor nerves lose their power, and, subsequently, the muscles their contractility. The brain does not seem affected nor the spinal cord." Slow pulse may be produced by "a specific paralyzing action of bile salts upon the ganglionic system of the heart." Where nutrition is so much at fault as in fatty degeneration of the heart, it might be expected that the nerves so intimately associated in the substance of the heart, would become similarly affected. The nerves of voluntary muscles have become so diseased. The retina is subject to such changes, with loss of vision. In post-mortem investigation we are not aware that any minute examination has been made of the nerves in the fatty heart, and interesting results might follow were careful search made. A group of symptoms, hitherto obscure, now called Graves' disease, receives some light from dissection and examination of the cervical

sympathetic. The nervous sensations attending Addison's disease and which are sometimes very distressing and hard to relieve, are explicable because of the implication of an important plexus of nerves. Carpenter quotes an instance of motor derangement resulting from the pressure of a bronchial gland on the great cardiac nerve. "The heart's pulsations were occasionally checked for an interval of from four to six beats, giving rise to most fearful sensations of anxiety and to acute pain passing up to the head from both sides of the chest."

Other opinions indicate a combined influence of vagi nerves and the ganglia on the heart's action. Moleschott concludes from his experiments, that "the heart is animated by four very excitable nerves, two vagi and two sympathetic. These have a peculiar consensus, which is no doubt due to the action of the ganglia of the heart." Rohrig's 10th proposition is that "the vagi nerves have a compensatory action in respect to the various states of excitement of the ganglia of the heart." Golz is of opinion "that through the vagi an influence is exerted on the ganglia of the heart, like that of concussion on the brain and spinal cord."

Bezold (Year Book, 1863) describes a new path for the motor nerves of the heart which has "a more important and intimate connection with the cerebro-spinal system than either the sympathetic or the pneumogastric." This "new central organ for the heart's motions is situated either in the medulla oblongata or in the brain, and that the nerves from it, passing through the lower cervical and first dorsal ganglia, reach the heart, as the middle and infeiror cardiac nerves. This central organ, according to him, produces three fourths of all the impelling force of the heart."

Hufschmidt and Moleschott performed experiments on rabbits with a view of determining the influence of irritation of the medulla oblongata and spinal cord on the frequency of the pulse. Their 2d conclusion is "strong electric irritation of medulla oblongata may diminish the frequency of the heart's action." Conclusion 10 is that this irritation is conducted to the heart through the pneumogastric, and not through the sympathetic nerves. Proposition 11 is that powerful irritation of the spinal cord diminishes the frequency of the heart's action, and 14, that the irritation is transmitted to the heart through the sympathetic as well as through the pneumogastric nerves; through the former directly, and through the latter by reflex action.

These various quotations give the latest physiological investigations of the motor nervous system of the heart. They suggest two reflections: 1st. The probable provision by nature of several sources of innervation to such an important organ as the heart. A similar provision occurs in the nervous distribution to the larynx, so far as respiration is concerned. Secondly, they suggest the application of the "inhibitive function" of nerves to the explan ation of such cases as the one we have related. Handfield Jones, in alluding to this function, says of it in general terms, that "it is not the energetic operation of an afferent nerve that causes inhibitory action, but its being injuriously affected by some impression made upon it. The enfeebled state of the nerve itself, of the center to which it proceeds, or the malignity of the

impression, may give rise to the peculiar effect." Inhibitive or retarding effects are produced when the vagi are galvanized and when galvanism is applied to the spinal cord between the fourth cervical and fifth dorsal spinous processes, both vagi being divided in the neck, showing that the sympathetic branches connecting the cord with the cardiac ganglia, are equally with the vagi inhibitory nerves. We may reasonably suppose that an injurious impression would be exerted upon the extreme expansion of the nervous fibers, amidst the degenerated muscular tissue of the heart, producing according to this theory, inhibitive effects, either upon the ganglionic system of the heart, or upon the vagi, or extending through them to the medulla oblongata. Experimenters are investigating the subject. At present we can not measure the relative amount of influence due to these various sources of innervation. It is possible in this case, there may have been an enfeebled state of the medulla oblongata, and that this may have produced inhibitive effects, such as Golz (quoted above) thinks may be transmitted through the vagi to the ganglia of the heart, "like that of concussion on the brain and spinal cord." This view will also suggest another point of connection between the heart disease and the epileptic convulsions, besides the anæmia of the brain. The climacteric decay, so called, had begun to show itself in impaired vision and hearing and memory, the base of the brain feeling its approach particularly.

Case 2.—Mrs. McN, aged about forty-five, widow in poor circumstances—had good health until three years ago, when she had an attack of rheumatism. When admitted to St. John's Hospital her condition was as follows: Face pale and puffed and anxious; severe pain under right mamma, distressing dyspnœa and orthopnœa; some cough; expectoration viscid and rusty colored, with occasional masses of dark blood. Percussion showed diminished resonance and tone; auscultation revealed in both lungs general subcrepitant rales. Pulse sixty-five, regular and feeble. Heart's impulse about the sixth rib and left of the nipple; precordial dullness four inches transversely. Synchronous with the first sound was a decided murmur, heard most distinctly at the point of the apex beat and circumscribed, not audible at the base. Rhythm normal. There was general anasarca, which had begun at the feet within a year. Urine scanty, chlorides present, no albumen, urates abundant. The diagnosis was regurgitant mitral disease, and hypertrophy with dilatation, and, consequent upon it, passive pneumonia and dropsy. The pain in the right side and partly the pneumonia seemed to be an acute aggravation in consequence of exposure. The prognosis was very unfavorable. The treatment immediately applied was application of hot turpentine to right breast, diuretics and expectorants, intended to relieve the acute symptoms of the case. Bowels were kept free by laxatives. Within three days the extreme dyspnœa was somewhat relieved, rusty and viscid sputa diminished, pain gone. Expectoration of black blood, indicative of pulmonary apoplexy, continued more or less throughout the case. In other respects she remained much the same for two weeks. We then observed a slower pulse, coming down below fifty, and irregular. Urine also showed albumen. The microscope

showed the large granular corpuscles, which Virchow considers one of the best indications of incipient degeneration of the kidney.

The close of the case was marked by extreme venous congestion; both of the legs being mostly of a bluish-black color, and nearly the whole of the nose of the same appearance for some days before death. The dyspnœa was extreme. Pulse was about the same in point of frequency, force, and rhythm. Aphonia came on five days before death. Brain remained free. This is fairly a typical case of regurgitant mitral disease, with some interesting clinical features added. It was a case, in confirmation of the well-known fact, that a certain class of society, the impoverished, is more liable to the consequences of diseased valves than the higher and more comfortable class. The origin of the valvular imperfection in this case was an attack of rheumatism. Two years subsequently she noticed the first evidences of a weakened heart, the œdema of her feet and ankles. We have not within our reach any data to show the average period intervening between the time of injury done, and the first appearance of its consequences in dropsy, etc. Chambers gives the duration of defective valves, without their secondary results, in fifteen persons of good and comfortable condition in life. The time varied from fifty-seven years to one year. The average was eighteen years. Bashan (Croonian Lectures on Dropsy, 1864,) mentions two cases of mitral murmur, one of eight, the other of twelve years duration—both of whom died of fever. He emphasizes and enlarges upon the "conservative process of calcification" of valves already affected by deposit of fibrin, and maintains that it explains the immunity of many patients from the "ulterior effects of a disorganized valve." The post-mortem of his two cases showed that in both the margin of the mitral valve was opake, and presented the character of a rigid ring, and cut with a grating sound. He gives drawings of the earthy deposit. Such a deposit is incapable probably of further change, and so far is conservative. An analogous instance of conservative influence may be alluded to in the deposit of "hæmatoidine," crystals from red corpuscles in the apoplectic cicatrix. Virchow remarks: "These once formed remain in the interior of the organ in the shape of compact bodies, endowed with the greatest powers of resistance." Correct pathology and practice require us, when we have diagnosed valvular disease, to keep in view, 1st. The mechanical impediment as first in order of occurrence; 2d. The connection between the inflammatory process by which the morbid deposit on the valve is produced and certain probabilities of further change; 3d. The condition of the blood; and, 4th. The general degeneration of tissue and cells which appears in advanced cardiac dropsy. It is comparatively easy to diagnose most valvular deficiencies, but to measure their extent and predict their course, is not so easy. If the abnormal sound or sounds be coarse or rough, and the action of the heart labored, the probabilities are, unless the compensating power of healthy nutrition intervene, that we will sooner or later have the "ulterior consequences." The incessant and irregular activity of a heart laboring to overcome an unnatural resistance is calculated to bring about degeneration of its structure. The clinical fact is well known that a dilated heart is a degene-

rated heart if it succeed to valvular disease. In the second statement is implied the pathological truth, that often inflammation will leave behind it the nuclei of degenerative processes, to be developed sooner or later to a damaging extent. The "exudation corpuscle," so called by older authors, is now recognized as the granular corpuscle by Virchow, and stated by him to be the first evidence of incipient degeneration. Another instance may be mentioned. M. Guillot (Walse, p. 280,) states "that whereas the natural proportion of fat to parenchyma averages about ten per cent., it may rise to fifty per cent. in pneumonia. The quantity of fat will increase directly, as the amount and duration of obstruction to breathing. The increase may be seen by the microscope." Bashan remarks, that "the sputa in plastic and capillary bronchitis are very like the fibrinous casts of the second stage of acute Bright disease, and the type of the granular epithelial cast is more distinctly obvious in the sputa of capillary bronchitis." At present we can not recognize the amount of interstitial change or foretell its progress, except as the subsequent history of the case will show it. Still we have it to bear in mind, and counteract it if possible. The substance of an interesting author's experience is, that "cardiac dropsy is invariably significant of failing and defective nutrition in the parieties of the heart." (Bashan, Croonian Lectures.)

The third condition, that of the blood, bears an important relation in the production of the "failing and defective nutrition in the parieties of the heart."

Becquerel and Rodier (Pathological Chemistry) give their analyses of the blood in organic diseases of the heart. Simple hypertrophy is excluded. Valvular disease is divided into three stages. In the first there is no constitutional disturbance—the disease is local. In the second the system begins to feel the ulterior effects of valvular imperfection. In the third these are exhibited in their utmost severity. In all there is a diminution of the red globules; 125 to 1000 being the proportion in the first stage; 117 in the second; 110 in the third. The mean density both of blood and serum is proportionately diminished as the disease advances. There is also a decrease of the fibrin. How this condition of the blood is so operative in the production of cardiac dropsy is an interesting question. Blood, with diminished globules and density and fibrin, will produce dropsy, though in such cases we do not have the general tendency to cell-degeneration as is now recognized in renal and cardiac dropsy. The impression made upon the general nutrition would seem to be only transient and wanting in an element sufficient to produce degeneration. In cardiac dropsy that starting-point is probably to be found in the connection spoken of under the second condition. A pathological process is suspended under favorable conditions of food, air, and vital stimuli, and started anew under depressing causes. Becquerel and Rodier show the effect of insufficient nourishment and privations in analyses of two specimens of blood taken, 1st, from a man, aged sixty, weakened by want and suffering from dropsy, not referable to any appreciable organic disease; 2d, from a man, aged sixty-four, suffering privations of every kind. "In both two of the chief constituents of the blood were diminished. In one the glo-

bules fell to 101; in the other to 64. The albumen of the serum in one fell to 65.43, and to 51.30 in the other. Density of both blood and serum decreased in a similar ratio. The diminution of the globules is probably the most effective cause of the tendency to degeneration of the muscular and other tissues of the heart. As oxygen bearers they are most important agents of healthy nutrition. It might be expected that a marked and continued diminution of them would be attended with deviations from a healthy cell-production. Want of proper oxidation of the nitrogenous substances is supposed to be the special cause of fatty degeneration. In lectures on "Local Chemical Disorders arising from Suboxidation and their Mechanical Results," Bence Jones gives an abstract of experiments made by Drs. Munk and Leyden on phosphorus poisoning, which, as he says, "leads to the most distinct proof of the influence of the state of the blood globules in the deposition or production of fatty matter." Frogs and rabits and dogs had the skin and stomach injected with phosphorus dissolved in oil—in two days and even one the liver and kidney and heart were fatty. Further experiments were made to determine what preparation of phosphorus produced these peculiar changes. Phosphoric acid was found to be the agent, and its action was two-fold—first and chiefly, on the blood globules, and secondly, on the nerves and muscles. "The blood globules were dissolved as by the bile acids. . . . . The muscular structure of the heart became granular and even distinctly fatty." Poisoning by sulphuric, nitric, oxalic, and tartaric acids showed the same results, produced by destruction of the blood globules. These experiments serve to show the influence of the blood globules, or of their diminution and destruction in bringing about the degeneration which pathologists recognize as a controlling condition in cardiac and other dropsies. Bashan (*loc. cit.*) says: "In this form of dropsy (cardiac), which appears to originate in a disorganization of the valves of the heart, there is equally (as in renal dropsy) demonstrable a similar state of decay and degeneration, not only in the muscular walls of the heart, but also in the remotest tissues of the organism. This condition may be most extensively traced in the inner membrane of the aorta; in the vascular layer of the small bronchial tubes; in the fibro-serous sac of the pulmonary cell; in the hepatic cells, and almost in every important tissue of the body."

We conceive it essential to a clear and practical comprehension of such cases as the one whose clinical history we have given, to bear in mind the general truths we have indicated. They are illustrated in the inception and progress of Mrs. McN's case. The origin of the valvular difficulty was the most common one, rheumatic. The rather speedy succession of constitutional effects shows not only decided mechanical change, but that there was probably no interval of rest between the inflammatory action and the ensuing degeneration which Paget notes as one of the terminations of the inflammatory process. The pneumonic obstruction was typical of mitral regurgitant disease. In view of the statement of M. Guillot, referred to before, that the "proportion of fat rises to fifty per cent. in pneumonia, and is increased directly as the amount and duration of obstruction to breathing," the secon-

dary obstruction of mitral regurgitant disease may be an important element in the progress of constitutional changes. A practical deduction may be made, that it is necessary in such cases to avoid every thing that would embarrass the respiratory organs.

The marked change in the pulse was an interesting clinical feature of her case. It may be taken as another evidence, besides the dropsy, of advancing deterioration of the heart's structure. It became analogous to the case we have discussed above. Irregular or disturbed rhythm succeeded the "slowing of the pulse." The rhythmic nerve-centers became affected probably both dynamically and structurally. Chemical and microscopical examination at her admission did not show renal disease. Subsequently her urine was albuminous, and the large granular corpuscle was abundant, though there were no fatty casts. If she had lived longer doubtless they would have been found. A microscopical examination of sputa showed the ordinary appearances of pneumonic sputa. Another symptom is worthy of mention: aphonia came on a week before death. M. Fauvel, a Frenchman, lays stress upon this as sometimes an important diagnostic symptom of albuminuria. Subsequent observers are not disposed to consider it as specially related to Bright's disease, though it may be worth attention if no other cause can be found to explain it.

ART. III.—*On the Speedy Relief of Pain and other Nervous Affections by means of the Hypodermic Method.* By CHARLES HUNTER, *Surgeon to the Royal Pimlico Dispensary, etc., etc.* London. John Churchill & Sons. 1865. (Pamphlet.)

The material of which this pamphlet is composed appeared in the *Medical Times and Gazette* and the *Lancet.* The separate essays have been collected and some additional observations added.

Beside a little harmless English vanity and self assertion, which crop out in various places, there are various absurdities of matter and manner. The author asserts that he was the first to resort to subcutaneous injections of remedial agents for their constitutional effects. "My experiments," says Mr. Hunter, "in 1858, were the first to upset the previously maintained theory, that to produce a full medicinal effect upon any given nerve or locality, the medicinal injection should be into that locality itself."

His clinical observations authorized him to come to the following conclusions:

"First. That in neuralgia equal benefit followed *distant* injection of the cellular tissue, as followed the injection of the *neuralgic site.*

"Secondly. That localization was not necessary to benefit a given part."

He asserts that in the introduction of narcotics into the areolar tissue of the body "we have a mode of subduing cerebral excitability more rapid, more certain, and more pure in its action than by stomachic doses."

He applies this method of treatment to insomnia, excitement, melancholy,

delirium, mania. "But it is in delirium tremens and in mania, more than any other disease of this class, that the immediate benefit is most manifest. Severe painter's colic, retention of urine due to spasms, tetanus, our author says are cured by subcutaneous injections of opium and other agents.

"In ague and fever the hypodermic injection has been extensively used, especially in the Smyrna Hospital by Drs. Chasseau and M'Craith; also by Dr. Moore, of Bombay; also, more recently, by Dr. Desvigne, in France. All these physicians agree in the superior efficacy of quinine when injected into the cellular tissue over the stomachic doses. . . . 'Four or five grains,' says Dr. Moore, 'are equal to five or six times that amount by the mouth.' . . . . . Concerning the quinine solution for injection the chief difficulty is to make it of that concentration that the dose shall be contained in a very few drops. . . . The less the bulk of fluid injected the better for many reasons. . . . . I have never injected, in point of bulk, a larger quantity than thirty minims."

In some experiments to determine the effects comparatively of morphia and atropia, our author found that morphia reduces the pulse rate, the number of respirations, and at the same time increases the action of the skin. Atropia, on the other hand, produces decided stimulation of the heart and arteries. "If the dose is an ample one, the dryness of the throat occurs in four to five minutes." Morphia injected subcutaneously "does not derange the stomach nor coat the tongue as when given by the mouth."

The instrument employed by Mr. Hunter is "a glass syringe with silver fittings. It contains a piston which works by a screw rod, each half-turn of which expels half a minim as a fine drop from the end of the pipe. . . . The pipe screws on and off the barrel at pleasure, and is made of silver with a hardened gold point, which is sharp, like a needle and perforated on one side.

"The tissue injected is the areolar tissue of the body. The site which I, however, most commonly inject is the inner part of the arm."

The fluid should be of that strength that three or four turns of the piston shall be an ordinary injecting dose. For first injections never use more than half the ordinary stomachic dose for males, nor more than a third for females.

The author concludes his pamphlet with the following propositions:

1. That certain medicines may be introduce into the cellular tissue beneath the skin with safety and with advantage.

2. That medicines so introduced have a general as well as local effect.

3. That the general effect of medicine so introduced is exceedingly rapid.

4. That this mode of administration is more certain in its action than is the action of a stomachic dose; for the exact amount introduced is known, and the whole of it takes effect, which may or may not be the case with stomachic doses, which may, on the other hand, be retained unabsorbed, vomited, etc.

5. It is also, and for the same reason, a more trustworthy method for certainty of the action of a remedy, than are endermic, enepidermic, lingual, and rectal methods.

6. Medicines are more purely received into the system by this method than when given by the stomach, in which organ they may become contaminated or decomposed.

7. A given amount of a medicine employed hypodermically has greater effect upon the system than the same amount administered by the stomach.

8. Medicines are more rapidly absorbed into the system when thus administered than by the stomach.

9. A given amount of medicine employed hypodermically has a greater and more rapid distant effect than when employed endermically, enepidermically, or iatraleptically.

10. That the medicines for which this mode of introduction is especially applicable are the various narcotics and sedatives, hypnotics and nerve tonics.

11. That this plan of treatment is more especially indicated for the relief of affections of the nervous system:

1stly. Where the immediate and decided effect of the medicine is required.

2ndly. Where medicines administered by the usual mode fail to do good.

3dly. Where the effect of a medicine is required, and the patient refuses to swallow.

4thly. Where from irritability of the stomach or other cause (such as idiosyncrasy, etc.) the patient can not take the medicine by the stomach.

Our author's facts and conclusions are sufficiently well authenticated and possess a certain value. For this merit we are willing to pardon the eccentricities of matter and manner before alluded to. It is hard to forgive him for the scandalous misuse of his native tongue apparent on every page. We will not, however, insist upon purity of language from Mr. Charles Hunter, seeing that he is an Englishman and a correspondent of the *Medical Times and Gazette.*

The book is for sale by Robert Clarke & Co.

ART. IV.—*On Deodorization and Disinfection.* By THOS. HERBERT BARKER, M. D., F. R. S. E.; being the Hastings Prize Essay.

The author classifies disinfectants under three heads:

1. Agents that chemically destroy the noxious body.

2. Agents that hold the noxious body inactive (antiseptics) by arresting chemical change.

3. Agents that physically restrain the action of the noxious compound, whereby its poisonous properties are neutralized.

Of the deodorizers used in the solid form he finds that,

Chloride and sulphate of zinc are the best deodorizers in combination with sawdust. Practically there is no difference between the two salts. After the preparations of zinc, carbolic acid stands best in the list of deodorizers, and next to it, chloride of sodium. Lime, when combined with sawdust, can scarcely be considered a deodorizer at all. Charcoal, contrary to what might be expected, is comparatively a feeble deodorizer, even when used quite fresh.

From a further series of experiments the author ascertains that for the de-

odorization of putrescent organic matter, as well as for the preservation of fresh matter, chloride and sulphate of zinc are by far the best agents.

Of the deodorants used in the liquid form, carbolic acid and creosote, bromine, tincture of iodine, solution of the nitrate of lead, turpentine, chloroform, saturated solution of sulphurous acid, solution of sulphate of iron, pyroligneous acid, etc., were all nearly equally good in preventing decomposition. The best preservatives from decomposition are carbolic acid and creosote, bromine, tincture of iodine, solution of the nitrate of lead, turpentine, and chloroform.

In respect to disinfection of air, we learn that chlorine, pure air in current, nitrous acid, sulphurous acid, ozone, iodine, and ammonia stand as disinfectants in the order in which they are here placed.

The author concludes his paper with the following summary:

1. For the sick-room, free ventilation when it can be secured, together with an even temperature, is all that can be required.

2. For rapid deodorization and disinfection, chlorine is the most effective agent known.

3. For steady and continuous effect, ozone is the best agent known.

4. In the absence of ozone, iodine exposed in the solid form to the air is the best.

5. For the deodorization and disinfection of fluid and semi-fluid substances undergoing decomposition, iodine is the best.

6. For the deodorization and disinfection of solid bodies that can not be destroyed, a mixture of powdered chloride of zinc or sulphate of zinc with sawdust is best. After this a mixture of carbolic acid and sawdust ranks next in order; and following on that, wood ashes.

7. For the deodorization and disinfection of infected articles of clothing, etc., exposure to heat at 212° Fahr. is the only true method.

8. For the deodorization and disinfection of substances that may be destroyed, heat to destruction is the true method.—*Brit. Med. Jour., Jan.*, 1866.

Subcutaneous Injections in Cholera.

Dr. George Johnson, Physician to King's College Hospital, London makes the following observations on this subject:

"It is probable that during any future epidemic of cholera, attempts will be made to treat the disease by the method of hypodermic injection. I see that some practitioners have publicly announced their intention to introduce morphia in this way. It makes one shudder to contemplate the consequences of this practice. An opiate introduced by the stomach has some chance of being rejected by vomiting, or passed away by stool; but injected beneath the skin, it must enter the circulation and produce its deadly narcotizing effects. Two results must, therefore, inevitably attend this method of treating cholera. 1. The death of the patient whose nervous system will be overwhelmed by the drug; and, 2. The discredit of the practitioner, who refusing both to learn and unlearn, persists in a method of treatment condemned equally by therapeutical experience and by pathological science.—*British Medical Journal.*

OBSTETRICS, DISEASES OF WOMEN, MATERIA MEDICA, AND THERAPEUTICS.

By THEOPHILUS PARVIN, M. D., Professor of Materia Medica and Therapeutics, Medical College of Ohio, and Clinical Lecturer on Diseases of Women at St. John's Hospital.

ART. I.—"*Ethereal Copulation*" *and* "*Mechanical Impregnation.*"

Dr. J. Marion Sims's "*Clinical Notes on Uterine Surgery, with especial reference to the Sterile Condition,*" recently issued in London, will soon be published in this country by Wm. Wood & Co., of New York. Meantime the notices of the volume in British journals attract no little attention. Especially is this true of a criticism in the *London Medical Times and Gazette*, of February 10th—a criticism so "vigorous" that it evoked the lines from a contributor to that journal which were republished in our last issue; by the way, one of the allusions made in the poetical effusion referred to, will be better understood, if not by a part of the title of this article, at least by an extract from the article which we shall give by and bye.

Our justly eminent countryman, who has done more than any surgeon living or dead, to render operations for vesico, or for recto-vaginal fistula successful, has found other worlds of difficulty to conquer. What those worlds are, and in what manner, and to what extent he has made conquests, will be made known as we proceed; if his success shall be found but partial, we know that all will concede it has not thus resulted from any lack of pluck or of perseverance, of ingenuity or of strategic skill.

Among the causes of sterility enumerated by Dr. Sims, is an hyperæsthetic condition of the vaginal orifice attended with obstinate contraction of the vagina, the moment it is touched. To this condition he gave the name of *vaginismus*, and presented through Dr. Tyler Smith, to the London Obstetrical Society, in 1861, a most interesting communication upon the subject. When the "Transactions" for '61 were published, Dr. Churchill was busy preparing the manuscript for his fifth edition of "*Diseases of Women*," and just at that very time happened to be debating in his own mind what term to apply to the condition we have mentioned, and which hitherto was unknown in professional literature. The moment his eye fell upon the title of Dr. Sims's

communication, *vaginismus*, he exclaimed, "That's the very word!" and thus we have a chapter with this designation in his most valuable work. The term has now come to be generally recognized by the profession, as both necessary and correct, neither of which adjectives can be applied to the "*hyper-involution*" and "*metatithmenia*," which disfigure a recent American volume.

But what is to be done for the *vaginismic* virgin, for virgin she will be almost certainly forever, even though many years in the married state? Dissecting off the hymeneal membrane, then certain incisions, followed by dilatation with glass bougies, constituted the treatment recommended by Dr. Sims to the Obstetrical Society. But he now has a shorter and a painless way of overcoming vaginal spasm and permitting sexual congress—though of course, this can not radically cure the disorder—it is only a temporary expedient. However, let us have the story as told by Dr. Sims, and some of the comments of the *Times and Gazette*:

"'In one case,' we read (p. 342), that 'it became the business of the physician to repair regularly to the residence of this couple, two or three times a week, to etherize the poor wife, . . . hoping that she would become pregnant, and that delivery would cure her. This etherization was continued for a year, when conception occurred. But during the whole period of utero-gestation, etherization was necessary to coition. After the birth of the child, there were a few copulations without ether, but it was exceedingly painful, and soon the pain became so severe that they were compelled to resort to ether again. At the end of another year of *ethereal copulation*, there was another conception, which resulted in an abortion at the third month.' . . . . . We must also protest, with due deference, against the idea that it ever can become 'the business of the physician' to administer ether for the purpose and in the manner which Dr. Sims details in so matter-of-fact a way. We recollect a Biblical commentator who defended the multiplicity of wives enjoyed by one of the patriarchs, on the plea that the venerable personage derived offspring, and not pleasure. Such a plea can not be used in the present instance to shield the 'couple,' nor the physician whose *business* (!!) it was to etherize the wife. We should treat this matter most seriously, and check any disposition to sarcasm; still to gratify a natural curiosity, we would ask whether the man of business was ordered to come on fixed days? or was he sent for on the spur of the moment?'" etc., etc.

Now, with all proper respect for the *Times and Gazette*, we object to this unfavorable judgment of "ethereal copulation." On economical grounds we might protest against such frequent use of ether, such fre-

quent professional calls—"two or three times a week!" The druggist's and the physician's bill must have amounted to no inconsiderable sum at the expiration of a year of "*ethereal copulation.*" Likewise, protest on physiological grounds, should be offered—the very frequency of sexual congress defeating its purpose, and being ordinarily attended with injury to each party—neither man nor woman should be guilty of such immoderate indulgence. On this point, and in all seriousness, *physicians should speak plainly, more plainly than they do*, thereby preventing much unhappiness and physical suffering—we desire to enforce our position by a quotation from *Acton on the Reproductive Organs.* "Few married men should indulge in connection *oftener* than once in seven, or perhaps ten days. This, however, is only a guide for strong, healthy men." Again, we protest against cheapening sexual pleasure—"two or three times a week" for "a year!" "Flat, stale and unprofitable." DeQuincey tells us of a Duke who used to say, "Next Friday, by the blessing of heaven, I purpose to be drunk;" and the great opium-eater, himself, was for a long time content with a laudanum debauch once in three weeks. Though the moderation of DeQuincey in reference to opium, may not furnish a rule for this, yet surely Venus should not be worshiped oftener than the Duke paid his devotions to Bacchus!

But, bating these grounds of protest, in reference to the particular case reported, is there not something refining, elevating in the very term *ethereal* copulation? Peradventure, Sir Thomas Browne might have been reconciled to such method of continuing the race. "I would be content that we might procreate like trees, without conjunction, or that there were any way to perpetuate the world without this trivial and vulgar way of coition—it is the foolishest act a wise man commits in all his life, nor is there anything that will more deject his cooled imagination, when he shall consider what an odd and unworthy piece of folly he hath committed."—*Religio Medici.*

We do not profess to know all that Shakspeare meant when he has Mercutio, in Romeo and Juliet, declare of Queen Mab,

> "This is the hag, when maids lie on their backs,
> That presses them, and learns them first to bear,
> Making them women of good carriage."

Possibly in our day ether will render the services of Queen Mab unnecessary. We may yet live to see a bottle of Squibbs' ether constituting an essential of a bride's *trousseau*; only in such a case let the poets be compelled to cease flaring their "hymeneal torches" in the vicinity of the inflammable compound.

But whatever may be the fate of this new field of professional labor, we are willing to vouch that *ethereal copulation* will be forgotten neither by *vaginimic* virgins, nor by sympathizing physicians.

Pass we now to "Mechanical Impregnation;" here we quote again from the *Times and Gazette:* "Considering, as Dr. Sims believes, that the standing difficulty of conception lies in difficulty of entrance of semen into the neck of the womb, the question next occurs of throwing the fructifying agent right into the cavity of the uterus. The author seems to have made fifty-five separate injections, on half a dozen different patients, in the course of two years, the patients being women in whom he believed a mechanical impediment existed, and who would not submit to operation. In one case, after the tenth trial, conception followed, but, unluckily, abortion cut short the existence of this squirt-begotten embryo. Dr. Sims says he has given up this branch of practice, owing to its difficulty and unsatisfactory nature; but he gives the details and precautions, and describes the necessary instruments for the benefit of any one else who may be 'able to apply the principles sought to be established by these experiments with more exactitude' than he has. 'If,' he says, 'we understood more about the proper period for conception, mechanical fertilization might become exact enough to depend on it—a kind of knowledge, by the way, that would be much appreciated by ladies who did not wish to conceive.' A brief notice of the book appears in a previous number (Feb. 3d), of the same journal, and from it we extract the following: "We shall not be surprised, by the way, if the publication of this book, and the extension of the remedial agents for sterility which it includes, shall in time supply a great want, in the shape of a new, elegant, truthful and suggestive terms of vituperation. We are already in possession of a tolerably copious vituperative vocabulary, based upon the supposed paternity or maternity of the person vituperated, and varying from the mild 'son of a gun,' up to the more sporting phrase, 'son of a bitch,' and to the still severer 'son of a w—e.' If Dr. Marion Sims's book acquire due vogue, young people in the next generation will ask in wonder the meaning of the phrase, 'son of a squirt.'"

If Shaftesbury's assertion that *ridicule is the test of truth*, be correct, and Dr. Sims's "Mechanical Impregnation" shall survive the cruel, and, sometimes, vulgar jests of this British critic, surely the truth thereof will be everywhere acknowledged. And is it not among the possibilities that "mechanical impregnation" shall be reduced to absolute certainty? Let the phenomena of ovulation be thoroughly and completely studied, so that we may know precisely the time when the ovule is liberated from

its birth-place and starts out into the world, and know too its exact rate of progression in its travel through the Fallopian way. When with *microscope*, properly adapted for this new work, and *endoscope, as good for this as for anything else*, the physician may place one or more of spermatozoa directly where needed by the ovule, as it enters the uterine cavity; then exclaiming—thus lifted above vulgar passion, and in sublime and just scientific pride—the very words used by the old Roman philosopher, when detected in copulation in the broad day, and in a place of public resort, "*Hominem planta!*"

"Platonic love" has walked our earth for more than a score of centuries companionless, the dream of poetry, the jest of scepticism, the jeer of sensualism. Henceforth let these be conjoined with it—the three united in indissoluble trinity—"Ethereal Copulation," and "Mechanical Impregnation."

Let it not be imagined from the extracts given from the criticism, that it contains no generous and well-deserved words of praise for Dr. Sims's book. Still less let it be thought that we would disparage either him or his volume. We have experienced too much kindness from the doctor, and have too high an appreciation of his ability, of his industry and of his great and merited fame, for such or any disparagement. When the book is issued in this country, we shall devote as much space to it as our pages will permit.

Art. II.—*Is Belladona a Lactifuge?*

In regard to this question and our remarks upon it in our last number, a friend writes us as follows:

"I fully share your doubts in regard to the power of belladonna to arrest the secretion of milk. My skepticism arose from observation of its effects, and was confirmed by the following case: A most estimable lady whom I attend, had the misfortune in early life to lose her nipples from a burn; there is no channel of exit for the lacteal secretion which is produced in ordinary abundance after labor. Mammary abscess, with its usual train of distressing symptoms, followed her first confinement; a like disaster was only prevented the next time by most careful and active treatment; in her third confinement, she was under my care for the first time, and again suppuration was only prevented by a severe struggle, in which belladonna played a prominent part and received a due share of the credit; after the next labor a like contest took place, and was alike successful, but toward its termination, I accidentally inspected the *liniment* for application to the breasts, and discovered that the *belladonna had been omitted*, and that not a particle of this medicine had been applied!

"Reason suggests the query, however, whether in a contest of this kind, each successive encounter will not prove an easier victory with the same remedies; whether nature thwarted again and again in such an attempt, does not make each time a less determined effort to set up a function of this kind.

"The regulation of the amount of drinks ingested is an important point, with reference to promotion of absorption. The elimination of water by the bowels or kidneys is of little avail if the patient be allowed to take fluids into the system abundantly. The quantity of liquid ingested should be as small as is compatible with comfort. The treatment is often rendered inefficient by inattention to this point.

"In reference to this subject, I extract the following paragraph from the last number of the *Medical News and Library*, in which it is credited to the *Chemical News:*

"'M. Dancel has noticed that women, when suckling, drink a great deal more than at other times. Cows, too, before they drop a calf, will be satisfied with from 12 to 20 quarts of water a day, but afterward they require 30, 40, or 50 quarts. He notices also that cows fed in houses on dry food give a fourth or even a third less milk than when at pasture. He states, too, that cows fed upon dry sesame-cake gave very little milk until they were freely supplied with water. He concludes from all this that water has a good deal to do with the secretion of milk.'

"Now, this fact I have constantly acted upon whenever drying up the lacteal secretion was necessary, and I never thought I had made any great discovery or was showing very profound wisdom, but merely carrying into practice the plainest teachings of physiology. 'Keep down the amount of your drink to the lowest possible point,' was my repeated admonition to the patient whose case is given above, and I believe it to be one of the most necessary measures in cases of this kind, and without which medicines will be likely to prove of little avail.

"Prof. Flint, in his recent work on the Practice of Medicine, has clearly recognized the value of diminishing the ingestion of fluids in another direction—where the object of treatment is to cause the absorption of effusions; and I mention it here as *apropos* to the subject. He is speaking of the treatment of the second stage of pleurisy."

We would not add a single word to this confirmatory evidence of the utter inutility of belladonna as a lactifuge, were it not alleged by some belladonna-believers that the failures of this agent to repress the lacteal secretion are to be accounted for by the inferior or worthless character of the preparation used in those particular cases. Now, we do not believe that any such explanation is valid against Dr. McClintoch's experiments; it is so improbable as to be well nigh impossible that an inert extract of belladonna was used by him; we know that in our own the

preparation was every thing that could be desired—as good an extract as is made.

We confess that we have no more faith in this agent, for such use, than we have in the odd means mentioned by Marriceau which we subjoin. (This is taken from the translation of Marriceau by Dr. Hugh Chamberlen, published in London in 1727.) "I know some women who hold it for a very great secret and most certain and fit to drive the milk effectually back; and that is, to put on her husband's shirt, yet warm, immediately after he had taken it off, and wear it until the milk be gone." Those last words, *wear it until the milk be gone*, are they not the secret of the value of shirt or of belladonna?

ART. III.—*Eclampsia twelve hours after delivery; recovery.* By J. D. KEMP, M. D., Vandalia, Ohio.

(We publish an abstract of an interesting case of puerperal convulsions, reported to the Montgomery County Medical Society. We may here remark that we are grateful to our friends for their contributions, and we regret that our limited number of pages—if not our views as to how the matter of a medical journal can be rendered most useful to the profession—will often compel us to make *abstracts*, instead of publishing *complete reports of cases.*)

The subject of this attack of convulsions, which succeeded her second labor, was twenty-four years of age; her labor was rapid, the first and second stages being accomplished before Dr. Kemp arrived. The patient was left in a favorable condition, except as to severe pain in the stomach, for which camphor and morphia were administered. Subsequently, without diminution of the pain referred to, she had nausea, retching, and very acute pain in the right side of the head corresponding to the parietal prominence. Twelve hours after delivery the first convulsion occurred—then the doctor was sent for—and in four hours twelve attacks occurred, each lasting five or six minutes, and being very severe, and the patient not recovering her consciousness in the intervals. At first chloric ether and Hoffmann's anodyne were given, but with no permanent benefit. After the twelfth convulsion blood was drawn to the amount of one pint, and a powder containing half a grain of ipecacuanha, one grain of camphor, and two grains of calomel, given every hour. The author quotes Madame La Chapelle as to the danger of peritonitis in these cases, and refers to his own experience—the only other case of puerperal convulsions that he has met with in ten years having recovered from these only to die of peritoneal inflammation.

He also quotes Dwyer, the two Ramsbothams, and Cazeaux as to *prognosis* in puerperal convulsions, and then says: "I now had the gratification of seeing the condition of my patient more favorable; the convulsions coming on less frequently—only three after blood-letting—the intervals being from three to six hours; the pulse and skin in better state; the sensorial and intellectual faculties improving," etc. By the suggestion of a consulting physician, the calomel, camphor, and ipecacuanha were given once in two hours, and four drops of the fluid extract (Tilden's) of veratrum viride were administered the intervening hour; the calomel was soon discontinued in consequence of its free action upon the bowels. Upon the fourth day the patient's condition required the administration of stimulants and nutrients—beef-tea and milk-punch were given—the veratrum was then given three times a day. On the sixth day the veratrum was replaced by the sulphate of quinia and rhubarb; and for these, four days subsequently, the muriated tincture of iron was substituted. The patient entirely recovered. Dr. Kemp concludes his paper thus:

"I can not assign a cause for this attack, except that the patient applied to me, about two weeks before her confinement, for some medicine for cancrum oris, which I referred to gastric derangement, and this might have been the source of all the subsequent mischief; derangement of the stomach, by reflex action upon the brain, with contraction of the uterus during labor, as the exciting cause, might afford a reasonable explanation. The patient is a healthy woman, of good constitution, with a predominance of the nervous temperament. In presenting this case I do not claim to have offered any thing new, but simply desire to get up an interest in this Society, and impress upon the minds of my professional brethren the necessity of prompt and active treatment in cases of eclampsia. Were I to meet another case of this formidable malady in a woman of favorable constitution, without hesitation I should at once resort to free blood-letting, for I regard this as the great sheet-anchor of treatment in speedily making the first decisive impression upon this disease; and when followed with calomel and sinapisms or blisters, as derivants and revulsives, and veratrum to control the action of the heart and arteries, coupled with other adjuvants in the progress of the case, which, if not necessarily fatal, must evidently sooner or later succumb under such treatment."

ART. IV.—*Note on the Preparation of Chlorodyne.* By E. A. CHANDLER, Pharmaceutist.

I notice in the present number of your valuable journal an article on chlorodyne, and I take the liberty to call your attention more fully to a preparation which promises to prove an invaluable pharmaceutical agent in the treatment of diseases incident to the approaching season.

Chlorodyne, so far as we have any knowledge of it, was first discovered or rather compounded by Dr. J. Collis Brown, surgeon in H. M. army in India, during the year 1848, since which time it has been severely tested and

"proved to possess remedial properties of unparalleled value in the preventive and curative treatment of disease."

According to the circular which accompanies the original English chlorodyne we find it stated that "the medical properties of this remedy are—anodyne, diaphoretic, sedative, astringent, antispasmodic, and diuretic. It possesses all the attributes of the opiates and the anodynes, without their unpleasant accompaniments or objections, is agreeable to the taste, exercises a remarkable soothing and pleasant effect on the patient, and establishes a rapid and beneficial change in the course of a few moments, entailing no inconvenience or injurious constitutional effects whatever."

Various analyses have been made and formulas published in the principal medical and pharmaceutical journals of England and the United States, but so far as I have experimented, I have failed to find that any of the published formulas yield a preparation in any way equal to the original.

Several prominent physicians of this city having expressed a desire to investigate the virtues of chlorodyne by employing it in their practice, I obtained several bottles for the purpose—part of which was used in St. John's Hospital, but with what success I have not been able to learn.

From other sources I learn that its action was very satisfactory, but the expense was objectionable ($2.50 per bottle at retail.)

I was, therefore, led to a series of experiments to obtain a preparation combining the *supposed ingredients* of this famous English remedy.

Acting upon the suggestions of Mr. T. B. Groves, published in the *American Journal of Pharmacy*, and also the formula proposed by Dr. Ogden, I attempted the preparation of a chloroform anodyne which would not only combine those powerful agents, morphia, canabis, and chloroform, but one which could be furnished at a price suited to the wants of the public and the apothecaries of this city and country—the cost of the imported article preventing in a great measure its general introduction into ordinary practice.

Although failing to obtain a good preparation by following the suggestions before mentioned, I hit upon an entirely different method of combining the same ingredients, and have succeeded in producing an elegant and perfectly clear solution, miscible in all proportions with water, syrup, glycerine, or dilute alcohol, without precipitation—so perfectly combined that no separation of chloroform has taken place in a sample which has been standing for two months.

Each fluid ounce of my "chlorodyne," or "chloroform anodyne," (I have given it no name yet,) contains four grains sulph. morphia, eight grains ext. canabis Ind. alc, one fluid drachm chloroform, five minims oil peppermint, and one minim oil capsicum, dissolved in dilute alcohol and glycerine in such a manner as to afford a permanent solution.

The dose is precisely the same as that of the English chlorodyne, viz: from five to thirty drops, according to age and severity of the disease, repeated every three or four hours if necessary.

It has been found more convenient in general practice to prescribe it in a

more dilute form by adding, say, two parts pure glycerine and four parts of some aromatic water.

Dr. S. P. Bonner, of this city, has tested my preparation thoroughly during the past three months, and pronounces it fully *equal, if not superior*, to the imported chlorodyne.

Your readers, I apprehend, will find some difficulty in compounding the formula, as laid down in Aitken's Practice, and copied into your article on chlorodyne, from the fact that the directions are, first, to "dissolve the morphia in the chloroform." "Both morphia and its salts are insoluble in chloroform." (Lepage, *Jour. de Pharm.*, XXV, 258.)

MISCELLANY.

Samuel Cooper and Robert Liston.

A correspondent of the *London Medical Times and Gazette*, Jan. 6, in sketching the history of University College Medical School, London, thus notices two distinguished surgeons whose names are familiar to every member of our profession. As it was our good fortune to listen to the teachings of both of the above-named gentlemen, we can vouch for the fidelity of the portraits. G. C. B.

"The session 1831–2 saw the army veteran and the most learned surgeon of the age, Samuel Cooper, inducted into the chair of surgery. Our recollections of Mr. Cooper date a good many years later than the time of which we are writing. Well do we remember him, bald and white-haired, somewhat infirm, but still in a green old age, intelligence and kindness sharing his face as he walks slowly into the evening lecture, sits down, crosses his legs, and, without note or book, begins a discourse full of practical maxims, illustrated by all the rich experience of the battle-field and hospital, and all the varied stores of learning which went to compose the Surgical Dictionary. What a favorite he was with the students! There was a tradition in our day—we do not vouch for the truth of it—that after he had been somewhat roughly attacked on one occasion by the redoubtable editor of the *Lancet*, the men had unhorsed his carriage, and taking the place of the horses, dragged him to his own door!

The name of Liston, *anax andron*, would alone stamp dignity on the history of any school. No doubt he is still fresh in the memory of most of our readers; but for those who are entering their professional career, we may attempt a description of the greatest surgical genius of modern times. Of gigantic form and proportions, a noble, upright bearing, handsome, large-featured, with a grand head of the dolicho-cephalic type; bald, a sharp, scru-

tinizing gray eye, forehead well proportioned, but not unduly predominating; a wonderfully determined mouth, and brow usually wearing a stern expression, but which could break into the most winning smile; hands that would have served a son of Anak, but thoroughly well proportioned, powerful as a gorilla's, but flexible and delicate of touch as Paganinni's; he was one of the few men who not only are sufficiently marked to set their personal identity above the risk of being mistaken, but who are so unlike all others that they do not even suggest a resemblance. Liston was Liston, not only in person, but in dress, gait, bearing, voice, manner; there was a grand simplicity about the man which was like no one else. Even to the plain black riband of his watch; he scorned ornamentation. See him at 7.50 on a frosty morning coming to lecture on Operative Surgery, in red neckcloth, shooting coat, and gaiters, after a sharp walk round the park, or at two in the afternoon stepping from his dark brown chariot, with the tall bays, at the hospital door, in spotless linen, loose black silk neckerchief, plaid trowsers, with half a dozen surgical instruments concealed up his capacious sleeve, there was no occasion to ask "Which is Liston?" How the students used to rush after him up the hospital stairs, or on field days swarm into the operating theater! Watch him at lithotomy—see how carefully he examines his instruments, looks to the tying up of the patient, and other preliminary details. He passes the sound and then sits down, whilst every voice is hushed in the crowded theater, and every eye directed on the bald head and those marvelous hands! A decided cut, one or two lesser ones, and in a moment the huge left forefinger is in the bladder and the forceps is following it, whilst a deep voice, "steady, steady," reassures the groaning patient. With wonderful adroitness the stone is seized and extracted, and a short tube introduced into the wound, and the great operator looks round as calm and unexcited as if he had been carving at the dinner table. We have seen splendid lithotomies in London and elsewhere, but we never saw anything which came up, in simplicity, rapidity or certainty, to Liston's operation.

"*Facta non verba*" might have been Liston's motto. He never was a fluent lecturer. His sentences were short, broken up, abrupt, colloquial, but they were *remembered*—a higher virtue than belongs to the efforts of many a voluble orator. That he did many wonderful surgical feats is as mere a truism as that Napoleon fought many wonderful battles. But we recollect one which is of some historical interest. One day it was noised abroad that Liston was going to remove a ball from the head of the thigh-bone of an old foreigner which had been imbedded for a great many years, and had resisted the operating skill of Dupuytren and other continental surgeons. The theater was accordingly crowded, and after a time, a grey-headed, thin old man, in a red night-cap, was assisted into the area by the hospital porters. We heard that he was a Pole, and that his name was Bem, and that the ball had been received in a duel fought some twenty years before. The operation began—there was no chloroform in those days—but not a murmur escaped from the patient. After the preliminary incisions, which extended deep down through the muscles of the thigh, some minutes were occupied in bone

cutting and gouging, and then Liston looked up with the ball in his hand. It had been lodged deep in the bone in the neighborhood of the great trochanter. We fancy we can see now the flicker of triumph that came over Liston's usually impassive face. Hemorrhage is stopped, the flaps replaced, and some water dressing placed on the wound; and as the old man is carried out he takes off his red night-cap and waves it to the students, who give him a cheer that must have startled the patients in the adjoining wards. Not many seasons after, all Europe had heard of the storming of Hermanstadt, and that the best troops of Russia and Austria were in rapid retreat before the national legions of Hungary led by General Bem.

"Many stories are told of Liston's enormous strength; we recollect an instance of its exercise which created some amusement at the time amongst the students. It used to be a favorite trick with many of the men to climb over the railings which surrounded the area of the operating theater after operations were over, and thus make a short cut into the corridor outside. This had at last become a nuisance and was accordingly forbidden by the hospital authorities. One day, however, a luckless youngster, of not very tall stature, made a bolt over the railing before Liston had left the theater. In the twinkling of an eye the hapless wight was suspended in the air by his coat collar and quietly deposited on the other side of the railing, amidst a roar of laughter from the bystanders.

This great chirurgeon, the equal, as has been truly said, of Sir Astley Cooper or Dupuytren, died in December, 1847, at the age of 53. The circumstances connected with his death are interesting and important, as showing the difficulties attending the diagnosis of aortic aneurism. We shall recur to this subject in our next number. [NOTE.—Samuel Cooper died in Dec., 1846, just one year after Mr. Liston's death.]

As the time is rapidly drawing nigh for the meeting of our National Association, those of our readers who propose to attend may derive some pleasure from the perusal of the following graphic account of the meeting of the British Medical Association, at Bristol, in 1863. We copy it from the *London Medical Times and Gazette.* G. C. B.

"*A Bristol Editor's Evening among the Esculapians.*—The following amusing sketch of 'Ye manners and customs of modern Esculapians,' is published in the *Bristol Times*, and is supposed to have been written by Mr. Leech, the able editor of that paper:

"What a healthy time two parts of England must have had of it during the last three days, for half the leading medical men in the country have been in Bristol since Wednesday, leaving their patients the rare opportunity of getting well in their absence. A few short vacations in the year, such as this, by weaning folks from their physic, would do more harm to the profession than all the homœopathists in the kingdom.

"This is an old joke, I know, and as the Bath physician said to his quizzical patient, 'You will have your joke, but I'll have your guinea;' and so it is. We laugh at the doctor only so long as we do not want him, but as I shall have some day next week to be overhauled by one of the profession for

a handsome policy, if it were only for this I 'll speak well of the faculty. And the president, with keen worldly wisdom, cleverly hit the right nail on the head, when he referred, in his opening address, to the millions invested in life insurance offices, which consider no business safely done that does not first pass through the doctor's hands.

"But to return to the *conversazione* at the Institution—for it was there I spent my evening among the doctors. Just as I entered the building, an inveterate punster seized me by the button-hole, and, pointing round to the statuary which ornament the vestibule, said: 'No doubt the Venus de *Medicine* is among these casts.' I have not had time to look out in my common-place book for this *bon mot*, but it strikes me as an old acquaintance, and I ll seek for it when I have a little leisure, and 'when found make a note of it.'

"Medicine has no class type in the faces of its professors; in a conference of clergy, or even lawyers, the clerical or legal habit appears to stamp itself on the countenances of the company. But among the medical practitioners there is a variety of dress and expression that gives you the idea that you have merely found your way into a congregation of intelligent and agreeable men of the world. Nor was there any thing, so far as I heard, in the conversation of the numerous groups through which you passed, that was strictly professional. Indeed, it seemed as if men had come from the four quarters of England merely to make or renew acquaintances. 'How do you do?' exclaims one man, accosting another. 'Very well,' replies the party addressed, 'I 'm sure I must know you, but—' 'You do n't,' vivaciously strikes in the other; 'and not so very surprising either, since we were at Saint Bartholomew's together in the winter of ——.' 'Smith!' exclaims the other, with a frank recognition and hearty shake of their hands, 'how are you, and where have you been located for these last twenty years?' Smith: 'O, tumbled on my legs into so and so.' Brown: 'Doing well, I hope?' Smith: 'Yes; but hard work. And where are you?' Brown: 'At ——, and no reason to complain.'

"These, perhaps, were two gray-headed, jolly, more than middle-aged men. Others, mayhap, had more varied notes to compare. One man was in luck, and fell into a fine-paying fashionable practice; while another, perhaps his compeer student at Guy's, with as much promise when they were walking the hospitals together, was only a poor Poor-law doctor, breaking his own heart and his horse's knees in riding to two-and-nine-penny pauper patients. In every case, however, I noticed men were delighted to renew old acquaintances. They seem to become young again in referring to their old London days, when, like Falstaff, they 'heard the chimes by midnight.' They were like Jack and his Eleven Brothers meeting at the cross roads again after a long absence, and having very different stories of Fortune's pranks or favors in the interval to tell, but still glad to meet.

"And this, I think, is among the most valuable opportunities which the Annual Conference affords. Old lawyer friends meet in London at the courts again and again; but between the old surgical acquaintance in Carlisle and the old surgical acquaintance in Exeter there is usually some 'lady in

the case' to prevent a mutual meeting, lest the husband may be ringing the night-bell during the temporary absence of the family doctor. There is, however, a half-professional excuse for this yearly holiday of the British Medical Association, and a man always idles with more conscientious ease when he thinks he has a business plea for doing so.

"Relaxation was certainly the rule of the night at the Institution. The only thing professional I noticed, beyond a few hideous morbid specimens under microscopes—which make laymen very uncomfortable, and serve as a sort of bugaboo for the profession—was one gentleman who devoted two hours to an exhibition of the 'vocal chords,' thrusting a small looking-glass down his throat, and making a series of unmusical sounds for a succession of brother-professionals, who looked down his throat with as much interest as though they wanted to see what he had had for dinner.

"And dinner being somewhat *à propos* to supper, I may be pardoned for observing that I never saw people eat with so great a contempt for the night-mare as did the professional part of the company on the occasion. Mr. Phillips having amused them for a while with his beautiful demonstrations of the electric light, said that he should be happy, if they desired it, to show them other experiments; but at the same moment the hon. secretary rose, and with something of covert humor, and in good Scotch, told them supper was ready. Hey, presto! the room was clear in a minute, the company were all off, 'leaving the world to darkness' and the man of light.

"'Whatever you do, never eat supper,' has been the invariable injunction of all the medical men I have had since I cut my teeth; but here was a prac tical illustration of a 'medical dietary table.' Every thing you could conceive unwholesome to retire to bed upon, from lobster-salad to pork-pie, was swept down before the repeated charges of these dyspepsia-defying lancers. I jogged the elbow of my medical attendant just as he went in for a third helping of raised pie, half a plateful of which would have made me dream that I had the Observatory on, or a plesiosaurus in, my stomach—'Pray remember the poor inside,' I said. 'See if you can't reach that decanter of sherry for me,' he merely replied, with his mouth half full. I retired in despondency. I had gone specially to see how those hygienian sages managed their own regimen, and I found them feeding like ostriches. I therefore put down that, as 'grocers (proverbially) do n't eat figs,' physicians do not take physic; nature has, therefore, full play and power with them."

Income Tax.

The members of our profession are certainly entitled to much credit for their quiet submission to the income tax, which imposes upon them a burden out of all proportion to that borne by the real property holders. For years the profession in Great Britain protested against such injustice by which "the earnings of hand and brain are placed in the same category with rents or dividends." Says the *London Lancet*, Feb. 1, 1851, "It can be shown that it is a monstrous injustice to tax the precarious income of the professional man, depending upon the continuance of health, intellect, and life, in exactly

the same proportion as an income derived from the land, which may last as long as the island remains above the sea; or the funds, which must continue as long as the national honesty or solvency." We shall return to this subject, for we believe that the profession, while yielding to none in loyalty and a willingness to bear a fair and just proportion of the burdens of the government, have cause to complain of the present inequality in taxation. Our National and State Associations should take this matter under consideration. We have recently found in the *Provincial Medical Journal*, Feb., 1851, an article which was copied from the *London Times* into that journal. It strikes us that it presents the whole subject in its true light, and we present it to our readers. G. C. B.

"*The Income Tax and its Oppressive Effects on general Practitioners.*—The usual argument in favor of the present method of assessment is stated in a few words. Income is only taxed while it lasts: the assessment, therefore, is fair. Let us now suppose the case of *a general practitioner of medicine*—of a man who, by the most unceasing labor, by the utmost anxiety and carefulness, is earning his £500 or £600 per annum in a country neighborhood. We will give him every professional advantage—he shall be medical adviser in ordinary to the union in which he resides, he shall have contracted with the grammar school and the young ladies' boarding establishment in the adjacent town to keep the systems of the pupils cool and comfortable for an annual sum certain. He shall be well with the squire; a sound churchman, and on dining terms with the rector; and yet no violent party man, lest the dissenting pneumonia of the country side should fly for relief to the opposition brass-plate in the county town. He can calculate the exact money-value of the zymotic, and strike an annual average upon the sporadic diseases within his beat. Altogether he is in as comfortable and permanent a position as any member of his class can occupy. There is nothing wanting to complete his felicity. He occupies a square white house neatly slated, with a little pill-box of brick and mortar attached, in which he himself or his assistant—who has paid him a premium—spreads the 'bergamy' pitch-plasters, and 'exhibits' the aloes and jalap. Behind the house is the stable with two stalls, whose inmates are never destined to enjoy each other's society, as Mr. Camomile drives one about all day and rides the other round the country all night. Now at the end of the year, with all his riding and all his pill-rolling, the unfortunate practitioner just manages to make both ends meet; for the time has come when little Johnny must go to school to be initiated in the niceties of Roman versification, with a view to making his way in the world at a subsequent period. The eldest daughter, too, must be gently led in the direction of Cramer's exercises, and be instructed in the art of hemming pocket-handerchiefs. Poor Camomile, who was born with a kindly, genial soul, can not but entertain the local dining club once a year at Opodeldoc Lodge, when the planned furniture of the dining and drawing rooms is divested of its brown-holland epidermis, and even the tissue paper which had been pinned round the broad gilt frame of Mrs. Camomile's portrait, for fear of fly-blows, is removed for that night only. The expense of that enter-

tainment, which exactly equals Camomile's overpayment to the income tax, is probably the only expense throughout the year which will not bear the strictest investigation, but it helps, with his necessary outlays, to pull him down. The life, no doubt, is a hard one—a harder one than great politicians would readily imagine; but still, while health lasts, it is tolerable, and not without its compensation, to a man of honest and humane temperament. But the night comes when poor Camomile, who has been roused from his sleep to assist at a premature birth, at some seven or eight miles distance from his own house, rides there through the pelting rain, and sits during the anxious night by the bedside of his suffering patient in his wet clothes. A cough follows; he cuts off his dinner, but continues his rides; his symptoms become aggravated by exposure to the weather, and in a fortnight he is beyond the reach of his own skill, and in a fortnight and a day beyond saving by any physician upon earth. He goes where we all must go; but Mrs. Camomile, and Johnny, and Anna Maria, awake from their dream of security to find that their means of support have gone as well. They must content themselves with being—as political economists would phrase it—absorbed into the population. That is to say, when the two horses and the planned and other furniture, and the house, and the galley-pots are sold up, there is just enough to clear scores all round, and pay for the only spot of earth in which Camomile had known the peaceful rest of an hour since the day he first established himself at Opodeldoc Lodge. Why did he not insure his life for a few hundred pounds? will be the comment of many a strong minded person upon this faint outline of a life. Simply because it pleased the finance minister of his country for the time being playfully to suppose that his income would inure to his children after him, and to mulct him accordingly. To be sure he might have dropped his annual entertainment to the members of the Hawthorn Dining Club—but then some of us come from one side of the Tweed, some from the other."

McMillan & Co., London, are engaged in the publication of a great work entitled "*A System of Medicine*," edited by J. Russell Reynolds, M.D., F.R.C.P., London, Home Professor of Clinical Medicine in University College, etc. It is on the plan of Holmes' "*System of Surgery*" and is to be completed in three volumes. The character of the work may be inferred from the table of contents of volume first, nearly ready, and advertised in the *London Lancet*, Feb. 24. The arrangements of Robert Clarke & Co. are such that they can procure for our readers any foreign work in a very short time.